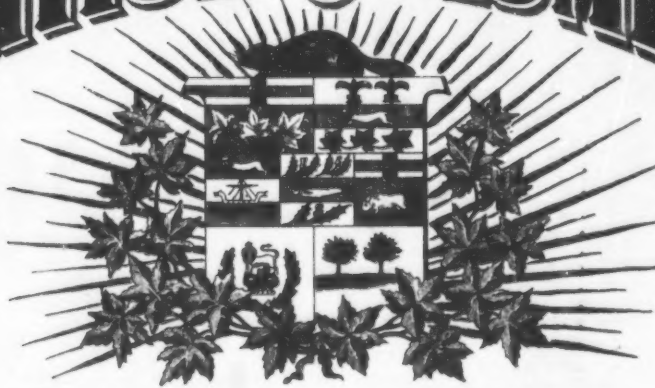


1924

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# BRITISH COLUMBIA



## THE MINERAL PROVINCE OF CANADA.



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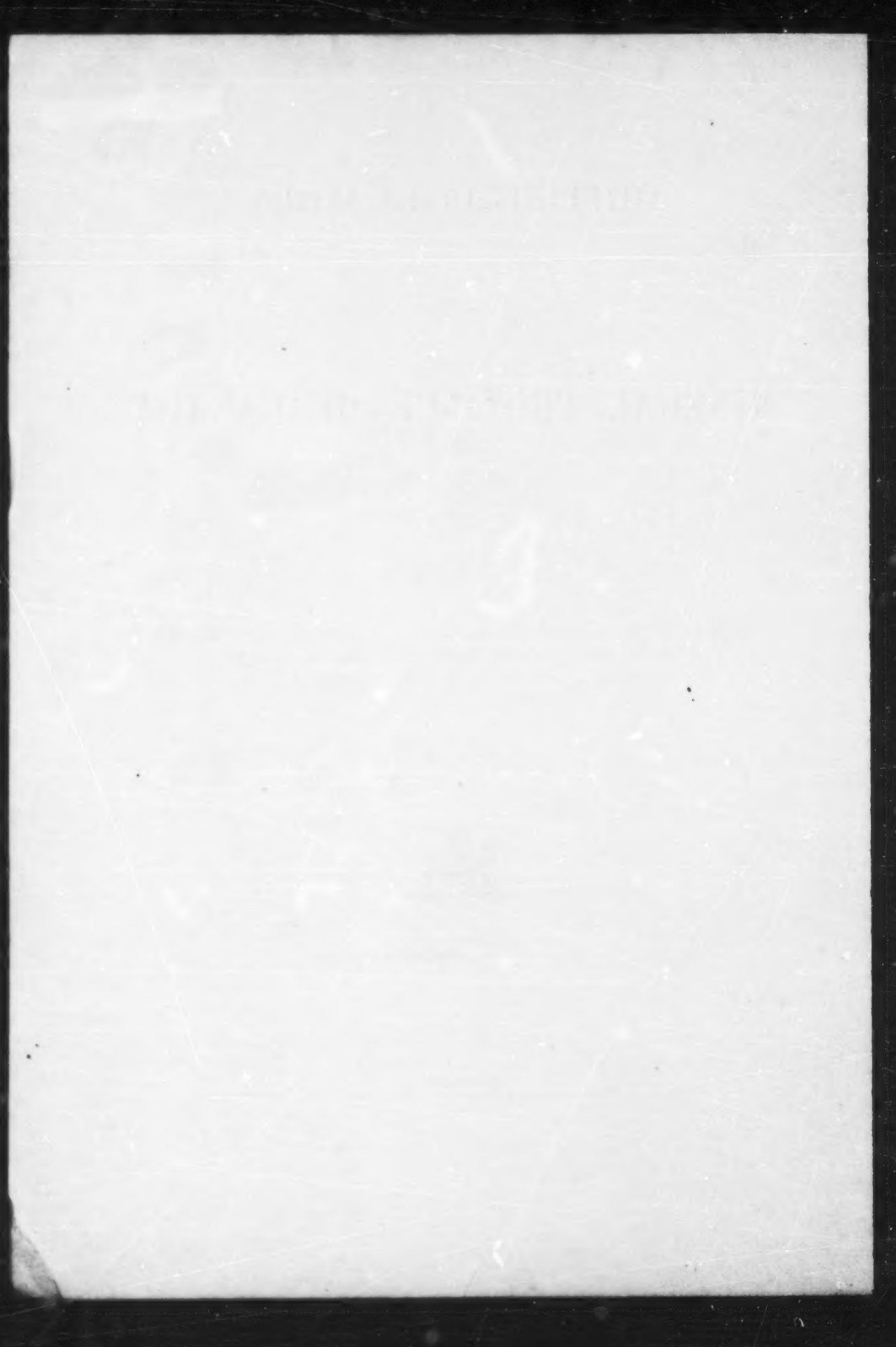
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A Short History of Mining in the Province, a Synopsis of the Mining  
Laws in Force, Statistics of Mineral Production to Date,  
and a Brief Summary of the Progress of  
Mining during 1923



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## BRITISH COLUMBIA

### THE MINERAL PROVINCE OF CANADA.

British Columbia has produced to date \$76,962,203 of Placer Gold, \$113,352,655 of Lode Gold, \$63,532,395 of Silver, \$179,046,508 of Copper, \$58,132,661 of Lead, \$27,904,756 of Zinc, and \$250,968,113 of Coal and Coke; \$39,415,234 of building-stone, etc., and \$1,408,257 of other miscellaneous minerals; a total production of \$810,722,782.

The Mineral Production for 1923 was \$41,304,320.

Lode-mining has only been in progress for about thirty years, and not 30 per cent. of the mineral land has been even prospected; 250,000 square miles of unexplored mineral-bearing land are open for prospecting.

Mineral locations are granted to the discoverers for nominal fees.

Absolute titles are obtained by developing such properties, the security of which is guaranteed by Crown grants.

The Mining Laws of this Province are more liberal and the fees lower than in any Province in the Dominion, or any colony of the British Empire.

Full information, together with Mining Reports and Maps, may be obtained from the Agent-General for British Columbia, British Columbia House, 1 and 3 Regent Street, London, S.W., or by addressing

HON. WM. SLOAN,

*Minister of Mines,*

*Victoria, B.C.,*

*Canada.*

WILLIAM FLEET ROBERTSON,

*Provincial Mineralogist,*

*Victoria, B.C.,*

*Canada.*



## MINING IN BRITISH COLUMBIA.

British Columbia, the most westerly Province of the Confederation forming the Dominion of Canada, comprises, principally, that section of British North America lying to the westward of the summit of the Rocky Mountains. The northern boundary of the Province is the 60th parallel; its southern boundary the United States of America, or, practically, the 49th parallel; on the west it is bounded by the Pacific ocean, and on the east by the Rocky mountains as far north as the 54th parallel; beyond that by the 120th meridian of west longitude.

The total area of British Columbia is about 372,000 square miles, of which 285,000 square miles are estimated to be as yet uncultivated.

The country is traversed in a north-westerly direction by four more or less continuous chains of mountains, between which lie valleys of varied width, well suited for agriculture.

Each of these mountain ranges has been proved to contain mineral in sufficient quantity to be profitably mined, while the valleys of the interior, lying immediately to the west of the Rocky Mountain range proper, contain placer gold throughout the whole length of the Province and have been and are being worked in places to great profit. To quote from a report of the late Dr. Geo. M. Dawson, then Director of the Geological Survey of Canada:—

"While it may now be safely affirmed that gold is very generally distributed over the entire area of the Province of British Columbia, so much so that there is scarcely a stream of any importance in which at least 'colours' of gold may not be found, the enumeration of the principal discoveries of mining districts shows very clearly that most of these are situated along the systems of mountains and high plateaus which comprise the Purcell, Selkirk, Colorado, and Cariboo ranges, and the north-west continuation lying to the south-west of the Rocky Mountain range, properly so called, and parallel in direction with it."

It may be truthfully said that the whole Province has been proved worthy of systematic examination, or "prospecting" as it is usually termed. As yet, serious work of this description has been confined to within a comparatively few miles of the railways, and not more than 25 per cent. of the entire area of British Columbia can be said to be really known, while not even half of that portion has been examined closely or in detail by which means only will its value be shown.

It will thus be seen that about 250,000 square miles of country, known to be extensively mineralized, still remain as a virgin field for the "prospector"\* and for the investor in undeveloped "prospects"\* a field such as exists to-day in but few other places in the world.

Of what value this great area is likely to prove can best be judged by an examination of the results already obtained from the small portion of the Province so far developed, results which are shown in the tables of production which follow.

It may reasonably be asked why development of these mineral resources has been so long delayed. The answer is easily found in the geographic position of the country and in the lack, until recent years, of transportation facilities. The metal as well as the money markets of the world are in Europe and on the Atlantic coast of North America, and since, prior to the completion of the Canadian Pacific Railway in 1885, a journey to British Columbia was a question of months of time and great expense, it may well be seen that the transportation of mineral or metal, other than the precious metals, from this Province to a market was practically impossible.

The following brief outline of the mineral development of British Columbia may not be out of place:—

Naturally the country was first explored and opened up from the Pacific seaboard. As early as 1835 coal was discovered at Fort Rupert by the Hudson's Bay Company, and in 1851 the same company opened up the extensive coalfields at Nanaimo, Vancouver Island. In

**Coal.** those days the market was very limited, and it was not until 1875 that the output of the Province exceeded 100,000 tons per annum. Since that time,

however, the market has gradually increased until, in 1902, about 1,400,000 tons of coal and 128,000 tons of coke, and in 1910 some 2,800,046 tons of coal and 218,029 tons of coke was produced, the market and transportation facilities, rather than the mines, being the limiting factors in the production.

\* The terms "prospector," "prospect," are applied, the former to one who sets out with the object of exploring for mineral, and the latter to the discovery made, which may or may not be afterwards developed into a mine.

In 1923 the gross output of coal was 2,542,987 tons (2,240 lb.), while the net production was 2,453,223 tons of coal and 58,919 tons of coke, which figures, compared with those of the previous year, show a slight decrease in the coal, and an increase in the coke. From 1912 to 1915, inclusive, the production of coal steadily fell off, owing partly to the competition of California fuel-oil.

The Coast collieries have produced to date a total of nearly 42,000,000 tons of coal, and made a gross output during the year 1923 of 1,802,456 tons of coal.

The Crownsnest Pass coalfields, on the western slope of the Rocky mountains, were made accessible by railway in 1898, and are now served by two competing lines.

The gross output of this field to date is about 18,000,000 tons of coal, a part of which has been made into coke, of which nearly 4,000,000 tons has been produced.

The output for 1923 amounted to a gross output of coal of 740,531 tons, the net output of coal being 650,767 tons, while 58,919 tons of coke was produced.

At present the only large working collieries in the Province are in the two districts just mentioned, but the distribution of coal seems general throughout the Province, since it is known to exist in places along the whole western slope of the Rocky mountains; it is found in the interior valleys at Nicola, Princeton, on the Thompson river, in Peace River District, and in the Omineca Division. Coal occurs on the Pacific Coast on Vancouver island, on the Queen Charlotte Islands, and along the Skeena river, while recent reports confirm its discovery in the Atlin Mining Division; the coal found is a first-class bituminous, carrying from 60 to 75 per cent. of fixed carbon, from 20 to 35 per cent. of volatile combustible matter, and from 3 to 9 per cent. of ash.

The coal reserves of the Province have been estimated by the Geological Survey as amounting to seventy-five billion metric tons.

As will be seen, the greater part of this immense reserve of power—for coal is power—remains dormant at present, an asset reserved for use in opening up the coming trade of the Pacific ocean.

In 1855 alluvial or "placer" gold was found in British Columbia at the mouth of the Pend d'Oreille river and in 1857 at Lytton. In 1858 discoveries were made on the lower Fraser river and hardy and adventurous prospectors followed the stream up—following the golden trail thus "struck"—and in 1860 and 1861, on the headwaters of the river,

**Placer-mining.** they discovered the exceedingly rich "placers" of the Cariboo District, which have produced gold to the value of about \$50,000,000. The news of these rich finds travelled abroad, and brought about a rush of gold-seekers from the then falling goldfields of California and from almost every part of the world. From this time practically dates the opening-up and settlement of British Columbia.

Within the next ten years the Province produced about \$33,000,000 worth of "placer" gold, the greatest production in any one year being in 1863, and amounting to about \$4,000,000. All of this gold was obtained with pick and shovel, without the aid of any machinery, which, as a matter of fact, could not be taken into the country over the crude trails and roads which served well enough for the pack animals of the early miners and prospectors.

As has been the history of all placer-mining camps, a few years saw all the more accessible gold skimmed from the shallow deposits, until, gradually, as the workings became too deep for the ordinary pick-and-shovel methods, then only available, the placer output gradually dropped, until in 1898 the annual production was only a little over half a million dollars.

In 1899, however, placer-mining was revived by the discovery of new and virgin fields in the Atlin District, a continuation to the north of the famous Cariboo and Omineca diggings of the past, and the connecting link between these and the more recent, but equally famous, goldfields of the Yukon, thus completing the chain of continuous "placer" districts from the 49th parallel, north-westerly, to the 69th parallel.

Fort Steele, Revelstoke, the valley of the Fraser river, Quesnel Forks, Barkerville, Manson, Telegraph Creek, and Atlin may be said to have been centres of known "placer" goldfields, pointing with no uncertain finger to the Yukon, and indicating a flow of gold-bearing wash from the north-western to the south-eastern corner of the Province.

In the vast area covered by this flow, the places mentioned are only spots at which gold has been found in sufficient quantity to be profitably mined by the old pick-and-shovel methods. That other such spots remain to be discovered seems probable, while it is certain that, in a

large percentage of the intervening areas, gold exists in quantity such as it will pay well to mine by modern methods.

A continued falling-off in the production of placer gold might have been expected in the year 1900, had it not been that machinery and water-power were beginning to be substituted for the laborious methods of the early miner, a change rendered possible by the improvement in transportation facilities.

The modern methods of working placer deposits demand a heavy initial outlay for plant, but a number of powerful companies are now engaged in British Columbia, having installed the necessary machinery and equipment, with such prospects of success that the old placer-grounds promise, under the stimulus of hydraulic mining, to yield an output of gold not previously attained in the palmiest days of placer-mining proper.

The new hydraulic companies referred to have taken up a large number of leases of placer-ground in the Province, but this branch of the mining industry is, at present, only in its infancy in British Columbia.

Such, briefly, is the history of placer-gold mining in the Province; that it is only the beginning of such, the improved methods of mining, and the new districts each year becoming accessible, leave little reason for doubt.

The total production of placer gold to date is about \$76,962,203.

It is only the repetition of the history of all placer-mining countries that prospecting for lode mines received little or no attention until after the placer-grounds have been so culled over as to force the prospector into new fields of labour. Nor is this to be wondered

**Lode-mining.** at; the placer is the "poor man's mine"; he needs little or no capital to work it; its product is cash, to all intents and purposes, and he is his own master—all attractions too great for the sturdy independence of the prospector to allow him to think of searching for lode mines, which, when found, require so much capital to work that they leave but very small interest in the property with the original owner or "locator," while, at the same time, the necessity of transportation facilities for the product of the mine limits the field of search to within a comparatively few miles of a railway or navigable waterway.

Railway facilities are comparatively recent acquisitions in British Columbia, our first line—the Canadian Pacific Railway—having been completed in 1885, and following, naturally, the least mountainous path across the Province. From the main artery of communication thus afforded, "prospectors" penetrated into the adjacent country by following up the main waterways which abound, with the result that discovery after discovery of valuable mineral was recorded.

Development of these mineral discoveries was unavoidably slow, being delayed by the lack of transportation facilities, which, it will be readily understood, could not be obtained until sufficient work had been done on the "prospects" found to prove their value and to give reasonable ground for believing that a proper and sufficient return would be obtained on the capital invested in the establishment of the requisite means of carriage and communication.

Thus it was not until 1893 that the lode mines of British Columbia really began to be productive, the output from this source during the six years immediately prior to that date amounting to an average value of only about \$60,000 a year, derived from selected rich ores found near the existing lines of transportation.

In 1896, however, the value of the production of the lode mines of the Province rose to \$300,000, since which time there has been a steady increase, until in 1901 the output from this class of mining had reached a value of \$13,683,044, and although it fell off slightly in 1902, the decrease was due principally to the lesser market values prevailing; since 1903 an upward tendency is again apparent. The increase thus shown in the short period of a decade gives ground for faith in the country as a future large producer of mineral wealth, and indicates that British Columbia will prove to the capitalist a profitable field for investment.

The total production of lode gold to date is \$113,352,665, of which \$3,704,994 was produced in 1923.

A total production of silver to date has been of a value of \$63,532,395, the value of the production of 1923 being \$3,718,129.

The total output of lead to date amounts in value to \$58,132,661, to which total the year 1923 contributed \$6,321,770. All the lead ores mined in the Province carry silver in varying amounts, and in many of the mines the silver is of greater value than the lead with which it is found; hence the output of these two metals is closely related.

The production of copper is getting to be one of the most important factors in the mineral output of the Province. To date, the total production has had a value of \$179,046,508, of which over 40 per cent. has been produced in the past six years, the output for 1916 being valued at \$17,784,494, that of 1917 at \$16,038,256, that of 1918 at \$15,143,449, that of 1919 at \$17,069,896, that of 1920 at \$7,832,890, that of 1921 at \$4,879,624, that of 1922 at \$4,329,754, and that of 1923 at \$8,323,266.

The total production of zinc to date has been \$27,904,756, of which there was produced in 1923 some \$3,278,903.

The production and marketing of zinc as a separate metal is practically confined to the last fourteen years.

The total output of miscellaneous minerals has been small (largely on account of distance from markets), amounting only to \$1,408,257.

The demand created by the war for such minerals as molybdenum, tungsten, chrome, etc., with greatly enhanced values, has caused the search for and development of such, with every prospect of a considerable production. The production in 1923 was \$49,418.

The production of building-stone, cement, brick, pottery, etc., to date has had a value of \$39,415,234, but since the war it has been small in comparison, amounting in 1923 to \$2,609,202.

Such then, is a brief summary of our mineral development, the details of which will be more fully found in the statistical tables following, which are taken from the Report of the Minister of Mines, and are compiled by the Provincial Mineralogist from the sworn statements of returns by the mine-owners and mining companies throughout the Province.

Attention is invited to these statistics and to the growth of the mining industry as therein indicated, since they speak both clearly and with due authority of the present standing and future prospects of British Columbia as a mining country.

The development of the mining industry has been of such rapid growth that the demand for skilled, or even ordinary, labour has of late years been greatly in excess of the supply, and there is, consequently, plenty of work to be found in the country for miners and mine-workers generally, and the attention of the British miners is directed to this field of labour.

The country is fairly well supplied with clerical and office assistance, and there is at present a fair supply of tradesmen of almost every sort. The country is great and growing in importance; there is room for and need of a greatly increased population.

During the past year the higher market prices of metals has greatly increased the profits of the mining companies, most of which have increased the wages of the men on a sliding scale based upon the selling price of the metals. In some cases this increase has amounted to a dollar a day.

The climate of the country is favourable—much milder than east of the Rocky mountains. The conditions of life are easy; luxuries are scarce but want is unknown. The laws are just and equitable, and the administration thereof fair and sure, as is guaranteed wherever the British flag flies at the mast-head.

Mention has been made of the geographical position of British Columbia as having in the past been a hindrance to development. It would now seem, however, that the markets of the world may in the future be on the borders of the Pacific ocean, and that the disadvantages in the matter of freights from which this Province has suffered will be reversed, enabling us to more than compete with all in the coming trade.

The markets for our mineral wealth have, in the past, been on the Atlantic seaboard; in the near future they may be on the Pacific coast. We shall, too, shortly, have our own refineries within the boundaries of the Province, so that our metals shall be turned out in marketable shape and sold from here direct, thus making a material saving as regards freight.



Allenby Concentrator, Similkameen Mining Division.



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## SYNOPSIS OF MINING LAWS OF B.C.

The mining laws of British Columbia are very liberal in their nature and compare favourably with those of any other part of the world. The terms under which both lode and placer claims are held are such that a prospector is greatly encouraged in his work, and the titles, especially for mineral claims and hydraulic leases, are absolutely perfect. The fees required to be paid are as small as possible, consistent with a proper administration of the mining industry, and are much lower than those of the other Provinces of Canada or the mineral lands under Dominion control. Provision is also made for the formation of mining partnerships practically without expense, and a party of miners is enabled to take advantage of these sections of the Acts and work their claims together, without the trouble or expense of forming a joint-stock company.

Considering the success that has characterized alluvial mining on a large scale in British Columbia, the rentals for hydraulic leases are particularly low. It will be found on reference to most of the Australian colonies and Natal that the rentals are, in most instances, eight times as much as in this Province, while the areas permitted are generally much smaller. The period for which leases are granted is practically the same. On a lode mine of 51 acres the expenditure of \$500 in work, which may be spread over five years, is required to obtain a Crown grant, and surface rights are obtainable at a small figure, in no case exceeding \$5 per acre.

The following synopsis of the mining laws will be found sufficient to enable the miner or intending investor to obtain a general knowledge of their scope and requirements; for particulars, however, the reader is referred to the complete Mining Acts, which may be obtained for 25 cents from any Mining Recorder, or from the King's Printer, Victoria, B.C.

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### Free Miners' Certificates.

Any person over the age of eighteen, and any joint-stock company, may obtain a Free Miner's Certificate on payment of the required fee.

The fee to an individual for a Free Miner's Certificate is \$5 for one year. To a joint-stock company having a capital of \$100,000, or less, the fee for a year is \$50; if capitalised beyond this, the fee is \$100.

The Free Miners' Certificates all expire at midnight on May 31st in each year. Certificates may be obtained for any part of a year, terminating on May 31st, for a proportionately less fee.

The possession of this certificate entitles the holder to enter upon all lands of the Crown, or upon any other lands on which the right to so enter is not specially reserved, and to prospect for minerals, locate claims, and mine.

A free miner can only hold, by location, one mineral claim on the same vein or lode, but may acquire others by purchase. In the case of placer claims, only one claim can be held by location on each creek, ravine, or hill, and not more than two in the same locality, only one of which shall be a "creek" claim.

In the event of a free miner allowing his certificate to lapse, his mining property (if not Crown-granted) reverts to the Crown, but where other free miners are interested as partners or co-owners the interest of the defaulter becomes vested in the company continuing co-owners or partners *pro rata*, according to their interests.

It is not necessary for a shareholder, as such, in an incorporated mining company to be the holder of a Free Miner's Certificate.

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### Mineral Claims.

Mineral claims are located and held under the provisions of the "Mineral Act."

A mineral claim is a rectangular piece of ground not exceeding 1,500 feet square. The angles must be all right angles unless the boundaries, or one of them, are the same as those of a previously recorded claim.

No special privileges are allowed for the discovery of new mineral claims or districts.

A mineral claim is located by erecting three "legal posts," which are stakes having a height of not less than 4 feet above ground and squared for 4 inches at least on each face for not less than a foot from the top. A tree-stump so cut and squared also constitutes a legal post.

The "discovery post" is placed at the point where the mineral in-place is discovered.

Nos. 1 and 2 posts are placed as near as possible on the line of the ledge or vein, shown by the discovery post, and mark the boundaries of the claim. Upon each of these three posts must be written the name of the claim, the name of the locator, and the date of location. On No. 1 post, in addition, the following must be written: "Initial post. Direction of Post No. 2 [*giving approximate compass bearing*]; — feet of this claim lie on the right and — feet on the left of the line from No. 1 to No. 2 posts."

The location-line between Nos. 1 and 2 posts must be distinctly marked—in a timbered locality by blazing trees and cutting underbrush, and in bare country by monuments of earth or rock not less than 2 feet in diameter at the base, and at least 2 feet high—so that the line can be distinctly seen.

Mineral claims must be recorded in the Mining Recorder's office for the mining division in which they are situated within fifteen days from the date of location, one day extra being allowed for each ten miles of distance from the recorder's office after the first ten miles. If a claim is not recorded in time it is deemed abandoned and open for relocation, but if the original locator wishes to relocate he can only do so by permission of the Gold Commissioner of the district and upon the payment of a fee of \$10. This applies also to a claim abandoned for any reason whatever.

Mineral claims are, until the Crown grant is issued, held practically on a yearly lease, a condition of which is that during such year assessment-work be performed on the same to the value of at least \$100, or a payment of such sum be made to the Mining Recorder. Such assessments must be recorded before the expiration of the year, or the claim is deemed abandoned. If, however, the required assessment-work has been performed within the year, but not recorded within that time, a free miner may within thirty days thereafter, record such assessment-work upon payment of an additional fee of \$10. The actual cost of the survey of a mineral claim, to an amount not exceeding \$100, may also be recorded as assessment-work. If, during any year, work is done to a greater extent than the required \$100, any further sum of \$100—but not less—may be recorded and counted as further assessments. As soon as assessment-work to the extent of \$500 is recorded and a survey made of the claim, the owner of a mineral claim is entitled to a Crown grant on payment of a fee of \$25, and giving the necessary notices required by the Act. Liberal provisions are also made in the Act for obtaining mill-sites and other facilities in the way of tunnels and drains for the better working of claims.

### Placer Claims.

Placer-mining is governed by the "Placer-mining Act," and by the interpretation clause its scope is defined as "the mining of any natural stratum or bed of earth, gravel, or cement mined for gold or other precious minerals or stones." Placer claims are of four classes, as follows:—

"'Creek diggings': any mine in the bed of any stream or ravine:

"'Bar diggings': any mine between high- and low-water marks on a river, lake, or other large body of water:

"'Dry diggings': any mine over which water never extends:

"'Precious-stone diggings': any deposit of precious stones, whether in veins, beds, or gravel deposits."

The following provisions as to extent of the various classes of claims are made by the Act:—

"In 'creek diggings' a claim shall be two hundred and fifty feet long, measured in the direction of the general course of the stream, and shall extend in width one thousand feet, measured from the general course of the stream five hundred feet on either side of the centre thereof:

"In 'bar diggings' a claim shall be:—

"(a.) A piece of land not exceeding two hundred and fifty feet square on any bar which is covered at high water; or

"(b.) A strip of land two hundred and fifty feet long at high-water mark, and in width extending from high-water mark to extreme low-water mark:

"In 'dry diggings' a claim shall be two hundred and fifty feet square."

The following provision is made for new discoveries of placer-mining ground:—

"If any free miner, or party of free miners, discovers a new locality for the prosecution of placer-mining and such discovery be established to the satisfaction of the Gold Commissioner, placer claims of the following sizes shall be allowed to such discoverers, viz:—

"To one discoverer, one claim ..... 600 feet in length;

"To a party of two discoverers, two claims amounting together to .. 1,000 feet in length;

"And to each member of a party beyond two in number, a claim of the ordinary size only.

"The width of such claims shall be the same as ordinary placer claims of the same class: Provided that where a discovery claim has been established in any locality no further discovery shall be allowed within five miles therefrom, measured along the watercourses."

Every placer claim shall be as nearly as possible rectangular in form, and marked by four legal posts at the corners thereof, firmly fixed in the ground. On each of such posts shall be written the name of the locator, the number and date of issue of his free miner's certificate, the date of the location, and the name given to the claim. In timbered localities boundary-lines of a placer claim shall be blazed so that the posts can be distinctly seen, underbrush cut, and the locator shall also erect legal posts not more than 125 feet apart on all boundary-lines. In localities where there is no timber or underbrush, monuments of earth and rock, not less than 2 feet high and 2 feet in diameter at base, may be erected in lieu of the last-mentioned legal posts, but not in the case of the four legal posts marking the corners of the claim.

A placer claim must be recorded in the office of the Mining Recorder for the mining division within which the same is situate, within fifteen days after the location thereof, if located within ten miles of the office of the Mining Recorder by the most direct means of travel. One additional day shall be allowed for every ten miles additional or fraction thereof. The number of days shall be counted inclusive of the days upon which such location was made, but exclusive of the day of application for record. The application for such record shall be under oath and in the form set out in the Schedule to the Act. A claim which shall not have been recorded within the prescribed period shall be deemed to have been abandoned.

To hold a placer claim for more than one year it must be rerecorded before the expiration of the record or rerecord.

A placer claim must be worked by the owner, or some one on his behalf, continuously, as far as practicable, during working hours. If work is discontinued for a period of seventy-two hours, except during the close season, lay-over, leave of absence, sickness, or for some other reason to the satisfaction of the Gold Commissioner, the claim is deemed abandoned.

Lay-overs are declared by the Gold Commissioner upon proof being given to him that the supply of water is insufficient to work the claim. Under similar circumstances he has also the power to declare a close season, by a notice in writing and published in the Gazette, for all or any claims in his district. Tunnel and drain licences are also granted by him on the person applying giving security for any damage that may arise. Grants of right-of-way for the construction of tunnels or drains across other claims are also granted on payment of a fee of \$25, the owner of the claim crossed having the right for tolls, etc., on the tunnel or drain which may be constructed. These tolls, however, are, so far as the amount goes, under the discretion of the Gold Commissioner.

### Co-owners and Partnerships.

In both the "Mineral" and "Placer-mining" Acts provision is made for the formation of mining partnerships, both of a general and limited liability character. These are extensively taken advantage of and have proved very satisfactory in their working. Should a co-owner fail or refuse to contribute his proportion of the expenditure required as assessment work on a claim he may be "advertised out," and his interest in the claim shall become vested in his co-owners who have made the required expenditure, *pro rata* according to their former interests.

It should not be forgotten that if any co-owner permit his free miner's certificate to lapse, the title of his associates is not prejudiced, but his interest reverts to the remaining co-owners.

### Leases.

Leases of unoccupied Crown lands may be granted by the Gold Commissioner of the district, after location has been made by placing a legal post at each corner of the ground applied for. On the post nearest the placer-ground then being worked the locator must post a notice stating the name of the applicant, the location of the ground to be acquired, the quantity of ground, and the term for which the lease is to be applied for. Within thirty days an application, in duplicate, with a plan of the ground on the back, must be made in writing to the Gold Commissioner, and the application must contain the name of each applicant, the number of each applicant's free miner's certificate, the locality of the ground, the quantity of ground, the terms of the lease desired, and the rent proposed to be paid. A sum of \$20 must accompany the application, which is returned if the application is not granted. The term of leases must not exceed twenty years. The extent of ground covered by leases must not be in excess of the following: Creek leases, on creek or river, half a mile; bench leases, 80 acres; for dredging leases, 5 miles; precious-stone diggings, 10 acres.

Under the "Placer-mining Act" the annual rental and amount to be expended annually on development-work on all leases issued after July 1st, 1920, is as follows:—

Bench lease, annual rental, \$25; annual development-work, \$250.

Creek lease, annual rental, \$37.50; annual development-work, \$250.

Dredging lease, annual rental per mile, \$25; annual development-work per mile, \$1,000.

Provision is made for reduction of rental and development expenditure on leases issued prior to that date.

Any lease issued under the "Placer-mining Act" prior to July 1st, 1920, in which the rentals and development requirements are higher, such lease, if in good standing, may, by application to the Gold Commissioner, be brought under the existing terms and conditions. On the written application of the holders of consolidated leases, provision is made for the Gold Commissioner to fix a uniform date on which in each year the rentals on all the leases shall be paid.

It is further provided that all development-work must be recorded with the Mining Recorder during the current year, similarly as is done with a mineral claim, and in default of such record being made the lease becomes automatically forfeited.

Leases may be "grouped" and annual development-work performed on one or more of the leases for the whole group. Excess work may be recorded three years in advance. Payment in cash of like amount to the development requirements may be made in lieu of such development-work.

For more detailed information the reader is referred to the complete "Placer-mining Act," which may be obtained from the King's Printer, Victoria, B.C.

### Taxation of Mines.

Crown-granted mineral claims are subject to a tax of 25 cents per acre. The tax becomes due on March 31st in each year, and if unpaid on the following June 30th is deemed to be delinquent.

In lieu of the said tax, however, the owner of a mineral claim may, on or before February 28th in the year in which the assessment is made, file an affidavit establishing to the satisfaction of the Assessor that the sum of \$200 has been expended upon the mineral claim in mining and development work during the calendar year preceding the year in which the assessment is made.

The mineral-tax is a tax of 2 per cent. levied quarterly on all ores and other mineral substances mined in the Province, based on the value of such ore at the mouth of the shaft or tunnel, but where ore-producing mines produce under \$5,000 in a year half the tax is refunded, while placer or dredging mines that do not produce a gross value of \$2,000 in a year are entitled to a refund of the whole tax.

They are also taxable on the income earned from the mine or claim or to a mineral-tax, whichever tax should be the greater in amount.

Should the tax on income prove the greater, then the mineral-tax already levied during the period corresponding with the period in which the income was earned is counted as part payment of the income-tax and only the difference is collected.

These taxes are in substitution for all taxes on the land and for taxes upon the personal property used in the working of the mine, so long as the land is used only for mining purposes. This exemption, however, does not apply to taxes levied under the provisions of the "Public Schools Act."

For further particulars see the "Taxation Act" and "Taxation Amendment Acts," also the "Public Schools Act," which are obtainable from the King's Printer.

By the "Land Act" a royalty of 50 cents per M. board measure is levied on timber suitable for mining-props, a cord of props being considered as 1,000 feet board measure.

### Coal and Petroleum Prospecting Licences.

Any person desiring to prospect for coal, petroleum, or natural gas upon any unreserved lands held by the Crown may acquire a licence to do so over a rectangular block of land not exceeding 640 acres, of which the boundaries shall run due north and south and east and west, and no side shall exceed 80 chains (one mile) in length. Before entering into possession of the said land he shall place at the corner of such block a legal stake, or initial post, and shall inscribe thereon his name and the angle represented by such post, thus: "A. B.'s N.E. corner," or as the case may be, and shall keep posted for thirty days in a conspicuous place upon the said land, and also in the Government office of the district, as well as publishing it in the British Columbia Gazette and in a local newspaper for a like period, a notice of his intention to apply for such prospecting licence.

The applications for said licence shall be in writing, in duplicate, and shall contain the best written description possible, with a diagram of the land sought to be acquired, and shall be accompanied with a fee of \$100. The application shall be made to the Commissioner of Lands for the district, and by him forwarded to the Minister of Lands, who shall grant such licence—provided no valid protest is substantiated—for a period not to exceed one year, and at the expiration of the first year an extension of such licence may be granted for a second or third year.

Should the licensee discover coal, petroleum, or natural gas upon such land during the period of his licence, and produce satisfactory evidence, under oath, of the fact, he may obtain from the Lieutenant-Governor in Council, after having had the land properly surveyed, a lease of the said block for a term of five years, at an annual rental of 15 cents an acre, and such lease may be renewed for a further period of three years, upon the payment of a renewal fee of \$100, for each parcel of 640 acres of land; and if during the term of such lease, or within three months thereafter, he can show conclusively that he has continuously and vigorously prosecuted the work of coal or petroleum mining, and has fully carried out the terms of such lease, he shall be entitled to purchase the said lands, including the coal, petroleum, or natural gas thereunder, at the rate of \$20 an acre, or in the event of the surface rights having been alienated from the Government, he can purchase the coal, petroleum, or natural gas underlying such lands at the rate of \$15 an acre: Provided also that, in addition to the rental or purchase price, there shall be paid to the Government as a royalty  $2\frac{1}{2}$  cents a barrel (35 Imperial gallons) of crude petroleum raised or gotten from such land. (See chapter 159, Revised Statutes, 1911, and chapter 44, 1913.)

## SUMMARY OF SPECIAL ACTS RELATING TO MINING PASSED DURING SESSIONS OF 1916, 1917, 1918, 1919, and 1920.

*(The complete Acts may be obtained from the King's Printer, Victoria, B.C.)*

### Mines Development Act.

When it is shown to the satisfaction of the Minister of Mines that ore-bodies exist in quantity and of commercial value sufficient to warrant the expenditure of public moneys, the Minister of Mines may authorize the expenditure of so much of the public money as may be required for the construction of trails, roads, and bridges to facilitate the operation and development of such mineral or placer claims.

Furthermore, the Minister of Mines may authorize the expenditure of public money towards the building of trails and bridges in or to any mineral district for the purpose of facilitating the exploration of the mineral resources of the district, such expenditure not to exceed 50 per cent. of the cost of construction. If such roads, trails, or bridges have been built by any person or company having mining interests in the district, the Minister of Mines may refund to such persons a portion, not exceeding 50 per cent. of the cost of such construction.

The sum of \$200,000 was appropriated for the purposes of this Act.

### Taxation Act Amendment Act, 1916.

A preliminary note is essential to the understanding of this Act. As the law has stood, a Crown-granted mineral claim on which taxes were in arrears for a number of years was offered for sale by the Government at a regular *tax sale*, with arrears of taxes plus interest and charges and Crown-grant fee as an upset price. If no sale was made the property remained in the hands of the Assessor until desired by some one, when it could only be purchased by tender. It was not open to location under the "Mineral Act" and a prospector had no protection, and to relieve the situation this Act was passed.

Under the new Act such reverted Crown-granted mineral claim may be obtained by any person under a lease for one year upon payment of \$25, and a renewal of such lease may be granted upon payment of further \$25 for a further period of one year, but no longer. During the period of such lease the lessee has the right to enter, prospect, and mine on such mineral claim, save for coal and petroleum, and during such time the lessee has the option to purchase such Crown-granted mineral claim upon payment of all taxes, costs, and interest which remained due and unpaid on such claim on the date of its forfeiture to the Crown, together with an amount equal to all taxes and interest which, except for its forfeiture to the Crown, would have been payable in respect thereof from the date of the lease to the date of application for a Crown grant.

A person may only obtain a lease, or any interest in a lease, of two such claims in the same Mining Division.

Such leases are not transferable and are subject to the rights any person may already hold to any portion of the surface of such Crown-granted mineral claim.

### Mineral Survey and Development Act, 1917.

#### PART I.—MINERAL SURVEY.

A mineral survey of the Province has been established, to be carried on continuously and records thereof kept.

For this purpose the Province has been divided into six Mineral Survey Districts, to each of which districts a Resident Mining Engineer has been appointed, who shall devote his whole time to the carrying-out of the provisions of this Act and shall report to the Minister of Mines.

## PART II.—AID TO PROSPECTORS.

The Resident Engineer in each district shall aid the prospectors, etc., therein by such advice, information, and directions as may be of assistance to them; by examining and testing samples of mineral and advising as to same; by reporting as to such trails, roads, and bridges as may be desirable for the development of the mineral resources, with the approximate costs thereof.

The Minister of Mines may operate or cause to be operated diamond or other drills for prospecting purposes upon any lands or claims, either—

- (a.) Upon application of owner or lessee of any mineral claim:
- (b.) On recommendation of the Resident Engineer drilling may be done on any land and the cost thereof be apportioned as a charge against any or all properties which in the opinion of the Resident Engineer may be benefited by such drilling.
- (c.) All such drilling shall be done upon the terms that the total cost of such drilling, together with a bonus equal to the total amount of such cost and interest at 6 per cent. per annum, shall be payable to the Minister of Mines, and as a debt due to the Crown shall be a first and paramount charge upon the claims or properties upon which or for which the work is done:

Provided that in the case of iron-mines, that is to say, mines in which the iron recoverable from the ore is such that they are classed as iron-mines by a Resident Engineer, no bonus shall be charged, and the amount payable to the Minister of Mines shall be the cost of the drilling or boring, with interest as aforesaid.

If the owner of a claim elects to pay in cash for such drilling, the cost price only will be charged and no bonus.

Every such Crown debt incurred as above shall be payable and recoverable in the manner following:—

- (a.) By taking 10 per cent. of any mineral mined or gotten from such claim or claims:
- (b.) By taking a sufficient portion of the purchase price on any sale of the premises charged with such Crown debt, and a sale of such premises may only be made subject to the satisfaction of such Crown debt:
- (c.) By foreclosure or sale after five years from the date of the recording of such charge.

The holders of property liable for any part of such drilling costs shall be entitled to the fullest information of such work, but no information shall be given to other parties, not in interest, except so far as such information shall be incorporated in the mineral survey of the district.

## PART III.—PROTECTION OF WAGE-EARNERS.

1. Every person giving a bond or option on any mining property shall insert therein a provision that, during the life of such bond or option, all free miners and wage-earners employed on or about such property shall be paid semi-monthly; and the person giving such bond or option shall be personally liable for the payment of all such wages, unless he shall have received from the Government Agent or Mining Recorder a letter stating that adequate security for all such wages has been given and lodged in the Government office.

2. Every person taking a bond or option to purchase any mining property shall furnish to the nearest Government Agent or Mining Recorder adequate security from time to time for the payment of all wages semi-monthly, on the terms that, upon any default in such payment of all wages, such security may be realized upon by such Government Agent or Mining Recorder, and all such Government Agents are given full power to and shall realize upon the proper security lodged with them, and shall make payment of any such wages in default up to the amount realized from such security.

## PART IV.—PROTECTION OF INVESTORS.

Each Resident Engineer shall, upon receiving notice of any advertised or solicited sale of shares in any company or in any claim or mine or mineral property whatsoever, upon statements or terms not in accordance with actual facts and conditions, notify the Minister of Mines, who upon investigation may, if found necessary, give such notices, either personal or public, as may be necessary to prevent any injury to investors; and every notice given under this section by the Minister of Mines shall be absolutely privileged.

### Iron Bounties Act, 1918.

The Lieutenant-Governor in Council may enter into an agreement with any person, persons, or corporation whereby the Province will pay to such person, persons, or corporation, out of the Consolidated Revenue Fund, bounties on pig-iron when manufactured within the Province, as follows:—

- (a.) In respect of pig-iron manufactured from ore, on the proportion produced from ore mined in the Province, a bounty not to exceed three dollars per ton of two thousand pounds.
- (b.) In respect of pig-iron manufactured from ore, on the proportion produced from ore mined outside the Province, a bounty not to exceed one dollar and fifty cents per ton of two thousand pounds.

Bounty, as on pig-iron under this Act, may be paid upon the molten iron from ore which in the electric furnace, Bessemer or other furnace enters into the manufacture of steel by the process employed in such furnace; the weight of such iron to be ascertained from the weight of the steel so manufactured.

### TABLE OF FEES.

|                                                                              |         |
|------------------------------------------------------------------------------|---------|
| Individual free miner's certificate .....                                    | \$ 5 00 |
| Company free miner's certificate (capital \$100,000 or less) .....           | 50 00   |
| Company free miner's certificate (capital over \$100,000) .....              | 100 00  |
| Recording mineral or placer claim .....                                      | 2 50    |
| Recording certificate of work, mineral claim .....                           | 2 50    |
| Rerecord of placer claim .....                                               | 2 50    |
| Recording lay-over .....                                                     | 2 50    |
| Recording abandonment, mineral claim .....                                   | 10 00   |
| Recording abandonment, placer claim .....                                    | 2 50    |
| Recording any affidavit under three folios .....                             | 2 50    |
| Per folio over three, in addition .....                                      | 30      |
| Records in "Records of Conveyances," same as affidavits.                     |         |
| Filing documents .....                                                       | 1 00    |
| For Crown grant of mineral rights under "Mineral Act" .....                  | 25 00   |
| For Crown grant of surface rights of mineral claim under "Mineral Act" ..... | 10 00   |
| For every lease under "Placer-mining Act" .....                              | 5 00    |



Salmon River Valley, Portland Canal Mining Division.



# MINERAL PRODUCTION OF BRITISH COLUMBIA.

## METHOD OF COMPUTING PRODUCTION.

In assembling the output of the lode mines in the following tables, the established custom of this Bureau has been adhered to, viz.: The output of a mine for the year is considered that amount of ore for which the smelter or mill returns have been received during the year. This system does not give the exact amount mined during the year, but rather the amount credited to the mine on the company's books during such year.

For ore shipped in December the smelter returns are not likely to be received until February in the new year, or later, and have, consequently, to be carried over to the credit of such new year. This plan, however, will be found very approximate for each year, and ultimately correct, as ore not credited in one year is credited in the next.

In the lode mines tables, the amount of the shipments has been obtained from certified returns received from the various mines, as provided for in the "Inspection of Metalliferous Mines Act." In calculating the value of the products, the average prices for the year in the New York Metal Market have been used as a basis. For silver 95 per cent., for lead 90 per cent., and for zinc 85 per cent. of such market prices have been taken. Treatment and other charges have not been deducted, except that in copper the amount of metal actually recovered has been taken, thus covering loss in slags.

TABLE I.—TOTAL PRODUCTION FOR ALL YEARS UP TO AND INCLUDING 1923.

|                                   |                      |
|-----------------------------------|----------------------|
| Gold, placer .....                | \$ 76,962,208        |
| Gold, lode .....                  | 113,352,655          |
| Silver .....                      | 63,532,395           |
| Copper .....                      | 179,046,508          |
| Lead .....                        | 58,132,661           |
| Zinc .....                        | 27,904,756           |
| Coal and coke .....               | 250,968,113          |
| Building-stone, bricks, etc. .... | 39,415,234           |
| Miscellaneous minerals, etc. .... | 1,408,257            |
| <b>Total .....</b>                | <b>\$810,722,782</b> |

TABLE II.—PRODUCTION FOR EACH YEAR FROM 1852 TO 1923 (INCLUSIVE).

|                                |               |                    |                      |
|--------------------------------|---------------|--------------------|----------------------|
| 1852 to 1895 (inclusive) ..... | \$ 94,547,241 | 1911 .....         | \$ 23,499,072        |
| 1896 .....                     | 7,507,956     | 1912 .....         | 32,440,800           |
| 1897 .....                     | 10,455,268    | 1913 .....         | 30,296,398           |
| 1898 .....                     | 10,906,861    | 1914 .....         | 26,388,825           |
| 1899 .....                     | 12,393,131    | 1915 .....         | 29,447,508           |
| 1900 .....                     | 16,344,751    | 1916 .....         | 42,290,462           |
| 1901 .....                     | 20,086,780    | 1917 .....         | 37,010,392           |
| 1902 .....                     | 17,486,550    | 1918 .....         | 41,782,474           |
| 1903 .....                     | 17,495,954    | 1919 .....         | 33,296,313           |
| 1904 .....                     | 18,977,350    | 1920 .....         | 35,543,084           |
| 1905 .....                     | 22,461,325    | 1921 .....         | 28,006,641           |
| 1906 .....                     | 24,390,546    | 1922 .....         | 35,158,848           |
| 1907 .....                     | 25,882,500    | 1923 .....         | 41,304,320           |
| 1908 .....                     | 23,851,277    |                    |                      |
| 1909 .....                     | 24,448,025    | <b>Total .....</b> | <b>\$810,722,782</b> |
| 1910 .....                     | 26,377,006    |                    |                      |

Table III. gives a statement in detail of the quantities and value of the different mineral products for the years 1921, 1922, and 1923. It is difficult to get absolutely complete statistics regarding building-stone, lime, bricks, tiles, and other miscellaneous products, but the detail figures shown in Table V. are as nearly accurate as can be obtained.

TABLE III.  
QUANTITIES AND VALUE OF MINERAL PRODUCTS FOR 1921, 1922, AND 1923.

|                        | Customary Measure. | 1921.      |              | 1922.      |              | 1923.      |              |
|------------------------|--------------------|------------|--------------|------------|--------------|------------|--------------|
|                        |                    | Quantity.  | Value.       | Quantity.  | Value.       | Quantity.  | Value.       |
| Gold, placer.....      | Ounces.....        | 11,660     | \$ 233,200   | 18,240     | \$ 364,800   | 20,320     | \$ 420,000   |
| " lode.....            | " .....            | 135,663    | 2,904,154    | 197,856    | 4,089,684    | 179,245    | 3,704,994    |
| Silver.....            | " .....            | 2,673,389  | 1,591,201    | 7,101,311  | 4,554,781    | 6,032,986  | 3,718,129    |
| Copper.....            | Pounds.....        | 39,036,993 | 4,879,624    | 32,359,896 | 4,329,754    | 57,720,290 | 8,323,266    |
| Lead.....              | " .....            | 41,402,288 | 1,693,354    | 67,447,985 | 3,480,316    | 96,663,152 | 6,321,770    |
| Zinc.....              | " .....            | 49,419,372 | 1,952,065    | 57,146,548 | 2,777,322    | 58,343,462 | 3,278,903    |
| Coal.....              | Tons, 2,240 lb.    | 2,483,995  | 12,419,975   | 2,511,843  | 12,559,215   | 2,453,223  | 12,266,115   |
| Coke.....              | " .....            | 59,434     | 416,038      | 45,835     | 320,845      | 58,919     | 412,433      |
| Miscellaneous products | " .....            |            | 2,077,030    |            | 2,682,126    |            | 2,858,710    |
|                        |                    |            | \$28,066,641 |            | \$35,158,843 |            | \$41,304,320 |

TABLE IV.  
OUTPUT OF MINERAL PRODUCTS BY DISTRICTS AND DIVISIONS.

| Names.                                                                      | DIVISIONS. |            |            | DISTRICTS.   |               |               |
|-----------------------------------------------------------------------------|------------|------------|------------|--------------|---------------|---------------|
|                                                                             | 1921.      | 1922.      | 1923.      | 1921.        | 1922.         | 1923.         |
| No. 1 District.....                                                         |            |            |            | \$ 7,323,662 | \$ 10,867,144 | \$ 10,369,235 |
| Atlin, Stikine, and Liard.....                                              | \$ 148,546 | \$ 155,271 | \$ 157,874 |              |               |               |
| Nass River.....                                                             | 4,784,945  | 4,561,185  | 5,240,085  |              |               |               |
| Portland Canal.....                                                         | 1,530,083  | 5,288,469  | 4,121,213  |              |               |               |
| Skeena, Queen Charlotte, and Bella Coola.....                               | 860,088    | 862,219    | 850,063    |              |               |               |
| No. 2 District.....                                                         |            |            |            | 80,807       | 292,144       | 281,575       |
| Cariboo and Quesnel.....                                                    | 67,400     | 192,300    | 270,575    |              |               |               |
| Omineca and Peace River.....                                                | 13,407     | 99,844     | 11,000     |              |               |               |
| No. 3 District.....                                                         |            |            |            | 959,095      | 1,421,850     | 555,131       |
| Nicola and Vernon.....                                                      | 936,865    | 1,383,143  | 405,603    |              |               |               |
| Yale, Ashcroft, and Kamloops.....                                           | 1,500      | 25,497     | 140,496    |              |               |               |
| Lillooet and Clinton.....                                                   | 20,730     | 13,210     | 9,032      |              |               |               |
| No. 4 District.....                                                         |            |            |            | 334,146      | 636,722       | 1,180,042     |
| Grand Forks, Greenwood, and Osoyoos.....                                    | 334,146    | 636,722    | 437,657    |              |               |               |
| Similkameen.....                                                            |            | 1,000      | 742,385    |              |               |               |
| No. 5 District.....                                                         |            |            |            | 9,291,595    | 10,761,709    | 14,957,437    |
| Fort Steele.....                                                            | 7,626,214  | 8,871,647  | 12,915,722 |              |               |               |
| Windermere and Golden.....                                                  | 26,763     | 59,406     | 102,092    |              |               |               |
| Ainsworth.....                                                              | 121,760    | 90,954     | 174,900    |              |               |               |
| Slocan and Slocan City.....                                                 | 191,011    | 1,358,035  | 1,526,194  |              |               |               |
| Nelson and Arrow Lake.....                                                  | 76,862     | 65,925     | 27,035     |              |               |               |
| Trail Creek.....                                                            | 1,250,233  | 272,967    | 189,439    |              |               |               |
| Revelstoke, Trout Lake, and Lardeau.....                                    | 8,752      | 42,775     | 22,055     |              |               |               |
| No. 6 District.....                                                         |            |            |            | 10,077,336   | 11,179,274    | 13,960,900    |
| Vancouver Island (Nanaimo, Alberni, Clayoquot, Quatsino, and Victoria)..... | 9,144,591  | 10,614,505 | 9,944,676  |              |               |               |
| Mainland (Vancouver and New Westminster).....                               | 932,745    | 564,769    | 4,016,222  |              |               |               |
|                                                                             |            |            |            | \$28,066,641 | \$35,158,843  | \$41,304,320  |



TABLE VI.—PLACER GOLD.

Table VI. contains the yearly production of placer gold to date, as determined by the returns sent in by the banks and express companies, of gold transmitted by them to the mints, and from returns sent in by the Gold Commissioners and Mining Recorders. To these yearly amounts one-third was added up to the year 1878; from then to 1895 and from 1898 to 1909, one-fifth; and since then one-tenth, which proportions are considered to represent, approximately, the amount of gold sold of which there is no record. This placer gold contains from 10 to 25 per cent. silver, but the silver value has not been separated from the totals, as it would be insignificant.

## YIELD OF PLACER GOLD TO DATE.

|           |            |           |              |            |           |           |              |
|-----------|------------|-----------|--------------|------------|-----------|-----------|--------------|
| 1858..... | \$ 705,000 | 1875..... | \$ 2,474,004 | 1892.....  | 399,526   | 1909..... | \$ 477,000   |
| 1859..... | 1,615,070  | 1876..... | 1,786,648    | 1893.....  | 356,131   | 1910..... | 540,000      |
| 1860..... | 2,228,543  | 1877..... | 1,608,182    | 1894.....  | 405,516   | 1911..... | 426,000      |
| 1861..... | 2,666,118  | 1878..... | 1,275,204    | 1895.....  | 481,683   | 1912..... | 555,500      |
| 1862..... | 2,656,903  | 1879..... | 1,290,058    | 1896.....  | 544,026   | 1913..... | 510,000      |
| 1863..... | 3,913,563  | 1880..... | 1,013,827    | 1897.....  | 513,520   | 1914..... | 565,000      |
| 1864..... | 3,735,850  | 1881..... | 1,046,737    | 1898.....  | 643,346   | 1915..... | 770,000      |
| 1865..... | 3,491,205  | 1882..... | 954,085      | 1899.....  | 1,344,900 | 1916..... | 580,500      |
| 1866..... | 2,602,106  | 1883..... | 794,252      | 1900.....  | 1,278,724 | 1917..... | 496,000      |
| 1867..... | 2,480,868  | 1884..... | 736,165      | 1901.....  | 970,100   | 1918..... | 320,000      |
| 1868..... | 3,372,972  | 1885..... | 713,738      | 1902.....  | 1,073,140 | 1919..... | 286,500      |
| 1869..... | 1,774,978  | 1886..... | 903,651      | 1903.....  | 1,060,420 | 1920..... | 221,600      |
| 1870..... | 1,336,956  | 1887..... | 693,709      | 1904.....  | 1,115,300 | 1921..... | 233,200      |
| 1871..... | 1,799,440  | 1888..... | 616,731      | 1905.....  | 969,300   | 1922..... | 364,800      |
| 1872..... | 1,610,972  | 1889..... | 588,923      | 1906.....  | 948,400   | 1923..... | 420,000      |
| 1873..... | 1,305,749  | 1890..... | 490,435      | 1907.....  | 828,000   |           |              |
| 1874..... | 1,844,618  | 1891..... | 429,811      | 1908.....  | 647,000   |           |              |
|           |            |           |              | Total..... |           |           | \$76,962,203 |

TABLE VII.—PRODUCTION OF LODE MINES.

| YEAR.      | GOLD.     |             | SILVER.     |            | COPPER.       |             | LEAD.         |            | ZINC.       |            | TOTAL VALUE. |
|------------|-----------|-------------|-------------|------------|---------------|-------------|---------------|------------|-------------|------------|--------------|
|            | Oz.       | Value.      | Oz.         | Value.     | Pounds.       | Value.      | Pounds.       | Value.     | Pounds.     | Value.     |              |
| 1887.....  |           | \$          | 17,090      | 17,331     |               |             | 204,800       | 9,216      |             |            | 26,547       |
| 1888.....  |           |             | 79,780      | 75,000     |               |             | 674,500       | 29,813     |             |            | 104,813      |
| 1889.....  |           |             | 53,192      | 47,873     |               |             | 165,100       | 6,488      |             |            | 54,371       |
| 1890.....  |           |             | 70,427      | 73,948     |               |             | NIL           | NIL        |             |            | 73,948       |
| 1891.....  |           |             | 4,500       | 4,000      |               |             | NIL           | NIL        |             |            | 4,000        |
| 1892.....  |           |             | 77,180      | 66,935     |               |             | 906,420       | 33,064     |             |            | 99,999       |
| 1893.....  | 1,170     | 23,404      | 227,000     | 196,000    |               |             | 2,135,023     | 78,990     |             |            | 297,400      |
| 1894.....  | 6,252     | 125,014     | 748,570     | 470,219    | 324,680       | 16,234      | 5,692,523     | 169,875    |             |            | 781,342      |
| 1895.....  | 39,294    | 785,271     | 1,496,522   | 977,229    | 965,840       | 47,642      | 16,475,494    | 532,255    |             |            | 2,342,397    |
| 1896.....  | 62,259    | 1,244,180   | 3,126,343   | 2,100,689  | 3,818,556     | 190,926     | 24,199,977    | 721,384    |             |            | 4,267,179    |
| 1897.....  | 106,141   | 2,122,830   | 5,472,071   | 3,272,836  | 5,325,180     | 266,288     | 38,841,136    | 1,390,517  |             |            | 7,062,431    |
| 1898.....  | 110,081   | 2,301,217   | 4,392,401   | 2,375,841  | 7,271,678     | 874,781     | 31,093,559    | 1,077,581  |             |            | 6,539,420    |
| 1899.....  | 138,315   | 2,857,573   | 2,939,415   | 1,663,708  | 7,722,591     | 1,351,453   | 21,992,436    | 878,870    |             |            | 6,751,004    |
| 1900.....  | 167,152   | 3,463,381   | 3,958,175   | 2,309,200  | 9,997,080     | 1,616,289   | 63,558,021    | 2,681,887  |             |            | 10,099,757   |
| 1901.....  | 210,384   | 4,346,603   | 5,151,333   | 2,884,745  | 27,603,746    | 4,466,969   | 51,582,936    | 2,002,731  |             |            | 13,683,044   |
| 1902.....  | 236,491   | 4,886,369   | 3,917,917   | 1,941,323  | 29,636,057    | 5,466,673   | 22,536,381    | 824,832    |             |            | 11,101,102   |
| 1903.....  | 232,831   | 4,812,616   | 2,996,304   | 1,521,472  | 34,359,921    | 4,547,585   | 18,080,283    | 680,744    |             |            | 11,571,267   |
| 1904.....  | 222,042   | 4,589,606   | 3,222,481   | 1,719,516  | 36,710,128    | 4,578,037   | 36,646,244    | 1,421,874  |             |            | 12,309,056   |
| 1905.....  | 238,690   | 4,933,102   | 3,439,417   | 1,971,818  | 37,692,251    | 5,876,222   | 56,580,703    | 2,392,022  |             |            | 15,190,154   |
| 1906.....  | 234,027   | 4,630,639   | 2,990,292   | 1,597,320  | 42,990,498    | 8,288,565   | 52,408,217    | 2,667,578  |             |            | 17,484,102   |
| 1907.....  | 196,179   | 4,055,020   | 2,745,448   | 1,703,825  | 40,632,739    | 8,166,544   | 47,738,703    | 2,291,458  |             |            | 16,216,847   |
| 1908.....  | 256,582   | 5,282,880   | 2,631,389   | 1,321,463  | 47,274,614    | 6,240,240   | 43,196,733    | 1,632,799  |             |            | 14,477,411   |
| 1909.....  | 238,224   | 4,924,090   | 2,532,742   | 1,239,270  | 45,697,245    | 5,918,522   | 44,396,346    | 1,709,259  | 8,900,000   | 600,000    | 14,181,141   |
| 1910.....  | 267,701   | 5,533,380   | 2,450,241   | 1,245,016  | 38,243,934    | 4,871,512   | 34,058,746    | 1,580,350  | 4,184,192   | 192,473    | 13,228,731   |
| 1911.....  | 295,617   | 4,725,513   | 1,892,364   | 958,293    | 36,927,556    | 4,671,444   | 26,672,397    | 1,069,521  | 2,634,544   | 129,092    | 11,464,068   |
| 1912.....  | 257,496   | 5,322,442   | 3,132,108   | 1,810,045  | 51,456,537    | 8,406,513   | 44,371,454    | 1,905,027  | 5,368,280   | 316,139    | 17,066,796   |
| 1913.....  | 275,254   | 5,627,690   | 3,465,856   | 1,968,006  | 46,460,356    | 7,094,489   | 55,364,677    | 2,174,732  | 6,758,798   | 324,421    | 17,190,588   |
| 1914.....  | 247,170   | 5,106,034   | 3,672,190   | 1,876,736  | 45,039,050    | 6,121,219   | 50,025,048    | 1,771,877  | 7,890,467   | 346,125    | 15,225,031   |
| 1915.....  | 250,021   | 5,167,984   | 3,366,500   | 1,688,901  | 56,918,405    | 9,235,500   | 46,703,560    | 1,980,200  | 12,982,440  | 1,460,524  | 19,992,140   |
| 1916.....  | 221,932   | 4,587,334   | 3,301,923   | 2,069,739  | 65,879,364    | 17,784,494  | 49,727,518    | 2,007,462  | 37,168,980  | 4,043,985  | 31,483,014   |
| 1917.....  | 114,523   | 2,387,190   | 2,925,216   | 2,265,749  | 59,007,565    | 16,038,256  | 37,307,465    | 2,961,020  | 41,848,513  | 3,166,259  | 26,738,474   |
| 1918.....  | 164,674   | 3,403,812   | 3,498,172   | 3,215,870  | 61,483,754    | 15,143,449  | 43,899,061    | 2,928,107  | 41,772,910  | 2,899,040  | 27,500,278   |
| 1919.....  | 152,426   | 3,150,645   | 3,403,119   | 3,692,673  | 42,450,398    | 7,939,390   | 39,473,998    | 1,695,855  | 56,737,651  | 3,640,429  | 19,760,460   |
| 1920.....  | 120,048   | 2,481,392   | 3,277,849   | 3,235,980  | 44,887,676    | 7,832,899   | 39,331,215    | 2,616,115  | 47,308,259  | 3,077,979  | 19,444,385   |
| 1921.....  | 136,063   | 2,804,154   | 2,673,391   | 1,691,201  | 39,036,993    | 4,879,624   | 41,402,238    | 1,693,354  | 49,419,372  | 1,962,055  | 12,920,390   |
| 1922.....  | 197,856   | 4,089,694   | 7,101,311   | 4,654,781  | 32,359,896    | 4,529,754   | 67,447,985    | 3,480,316  | 57,146,548  | 2,777,327  | 19,231,857   |
| 1923.....  | 179,245   | 3,704,994   | 6,032,980   | 3,718,129  | 57,720,290    | 8,323,266   | 60,665,152    | 6,321,770  | 58,848,462  | 8,278,903  | 25,347,092   |
| Total..... | 5,494,652 | 113,852,655 | 102,425,396 | 63,582,395 | 1,054,460,188 | 179,046,508 | 1,242,407,239 | 58,152,661 | 437,930,401 | 27,904,756 | 441,968,976  |

TABLE VIII.—COAL AND COKE PRODUCTION PER YEAR TO DATE.

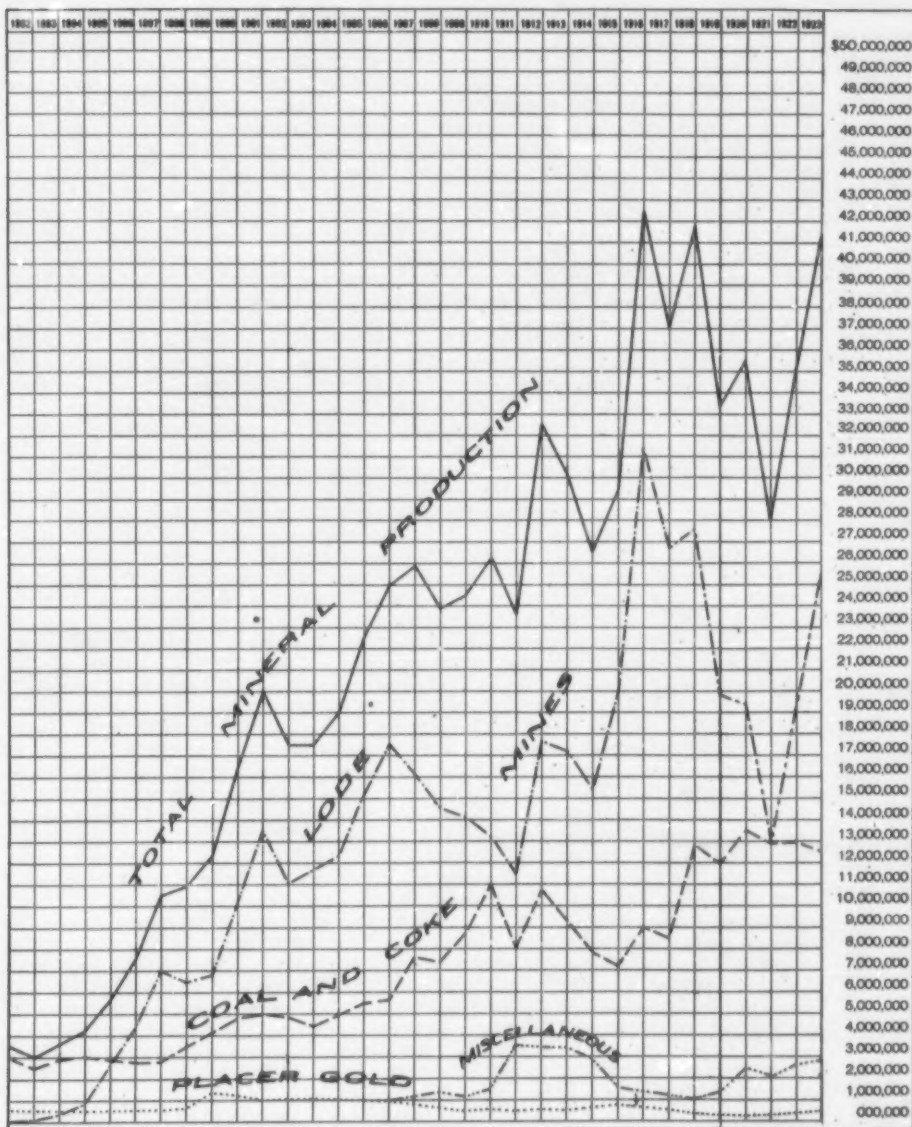
| COAL.                 |                   |               |
|-----------------------|-------------------|---------------|
| Year.                 | Tons (2,240 lb.). | Value.        |
| 1836-1885.....        | 3,029,011.....    | \$ 9,468,557  |
| 1886.....             | 326,656.....      | 979,908       |
| 1887.....             | 413,360.....      | 1,240,080     |
| 1888.....             | 489,301.....      | 1,467,903     |
| 1889.....             | 579,830.....      | 1,739,490     |
| 1890.....             | 678,140.....      | 2,034,420     |
| 1891.....             | 1,029,097.....    | 3,087,291     |
| 1892.....             | 826,335.....      | 2,479,005     |
| 1893.....             | 978,294.....      | 2,934,882     |
| 1894.....             | 1,012,953.....    | 3,038,859     |
| 1895.....             | 939,654.....      | 2,818,962     |
| 1896.....             | 896,222.....      | 2,688,606     |
| 1897.....             | 842,854.....      | 2,648,362     |
| 1898.....             | 1,135,865.....    | 3,407,305     |
| 1899.....             | 1,306,324.....    | 3,918,972     |
| 1900.....             | 1,439,595.....    | 4,318,785     |
| 1901.....             | 1,460,331.....    | 4,380,993     |
| 1902.....             | 1,397,394.....    | 4,192,182     |
| 1903.....             | 1,168,194.....    | 3,504,582     |
| 1904.....             | 1,253,628.....    | 3,760,884     |
| 1905.....             | 1,384,312.....    | 4,152,936     |
| 1906.....             | 1,517,303.....    | 4,551,909     |
| 1907.....             | 1,800,067.....    | 5,300,235     |
| 1908.....             | 1,677,849.....    | 5,072,472     |
| 1909.....             | 2,006,476.....    | 7,022,666     |
| 1910.....             | 2,800,046.....    | 9,800,161     |
| 1911.....             | 2,193,062.....    | 7,675,717     |
| 1912.....             | 2,628,804.....    | 9,200,814     |
| 1913.....             | 2,137,483.....    | 7,481,190     |
| 1914.....             | 1,810,967.....    | 6,338,385     |
| 1915.....             | 1,611,129.....    | 5,638,952     |
| 1916.....             | 2,084,093.....    | 7,294,325     |
| 1917.....             | 2,149,975.....    | 7,624,913     |
| 1918.....             | 2,302,245.....    | 11,511,225    |
| 1919.....             | 2,267,541.....    | 11,337,705    |
| 1920.....             | 2,595,125.....    | 12,975,925    |
| 1921.....             | 2,483,995.....    | 12,419,975    |
| 1922.....             | 2,511,843.....    | 12,559,215    |
| 1923.....             | 2,453,223.....    | 12,266,115    |
| Total.....            | 61,658,556.....   | \$226,035,113 |
| COKE.                 |                   |               |
| Year.                 | Tons (2,240 lb.). | Value.        |
| 1896-97.....          | 19,396.....       | \$ 96,980     |
| 1898 (estimated)..... | 35,000.....       | 175,000       |
| 1899.....             | 34,251.....       | 171,255       |
| 1900.....             | 85,149.....       | 425,745       |
| 1901.....             | 127,081.....      | 635,405       |
| 1902.....             | 128,015.....      | 640,075       |
| 1903.....             | 165,543.....      | 827,715       |
| 1904.....             | 238,428.....      | 1,192,140     |
| 1905.....             | 271,785.....      | 1,358,925     |
| 1906.....             | 199,227.....      | 996,135       |
| 1907.....             | 222,913.....      | 1,137,478     |
| 1908.....             | 247,599.....      | 1,484,794     |
| 1909.....             | 259,703.....      | 1,532,218     |
| 1910.....             | 218,029.....      | 1,308,174     |
| 1911.....             | 66,005.....       | 396,030       |
| 1912.....             | 264,333.....      | 1,585,996     |
| 1913.....             | 286,045.....      | 1,716,270     |
| 1914.....             | 234,577.....      | 1,407,462     |
| 1915.....             | 245,871.....      | 1,475,226     |
| 1916.....             | 267,725.....      | 1,606,350     |
| 1917.....             | 159,905.....      | 959,430       |
| 1918.....             | 188,967.....      | 1,222,769     |
| 1919.....             | 91,138.....       | 637,966       |
| 1920.....             | 67,792.....       | 474,544       |
| 1921.....             | 59,434.....       | 416,038       |
| 1922.....             | 45,935.....       | 320,845       |
| 1923.....             | 58,919.....       | 412,433       |
| Total.....            | 4,297,455.....    | \$94,933,000  |

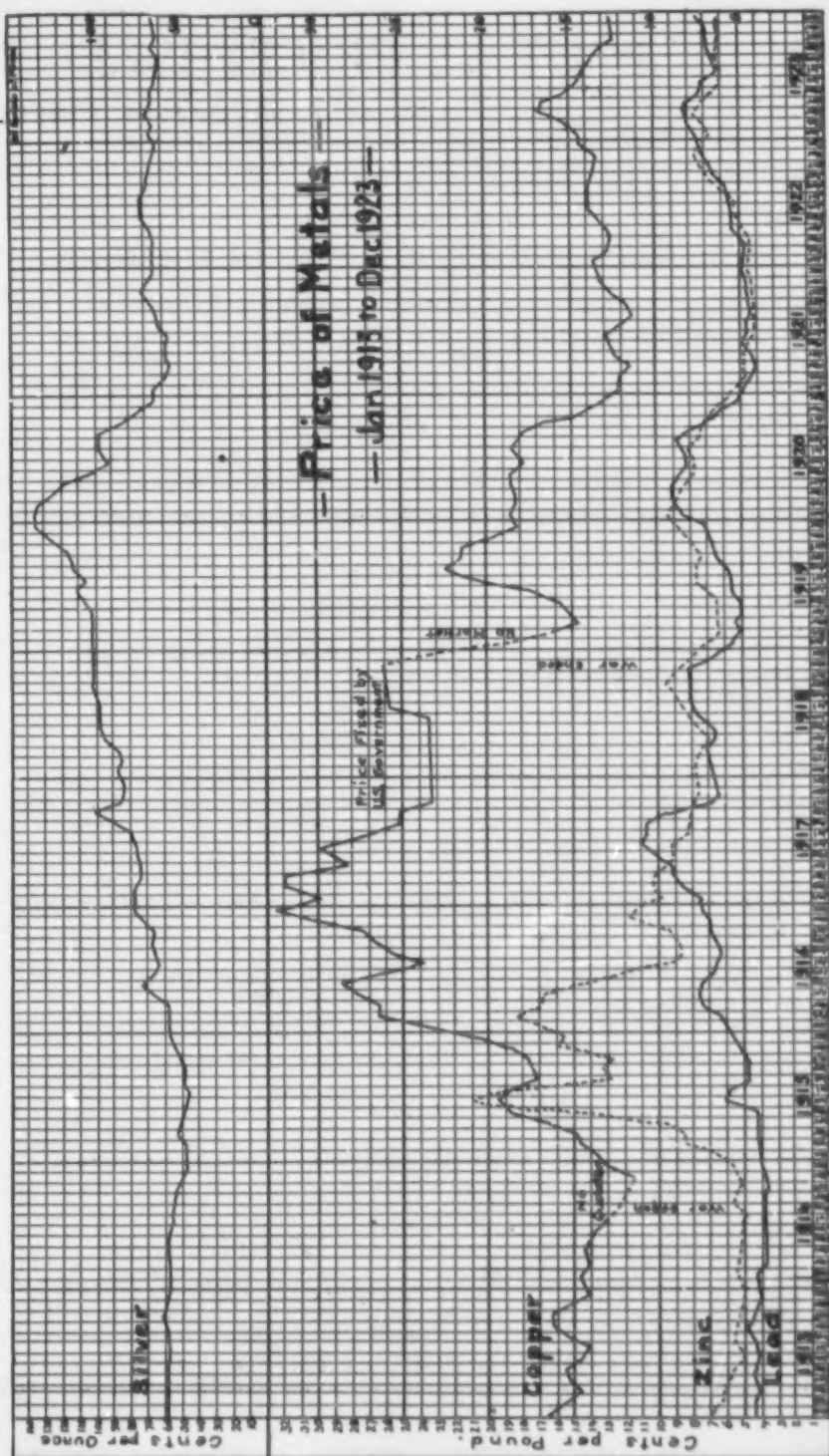
TABLE IX.—PRODUCTION IN DETAIL OF THE

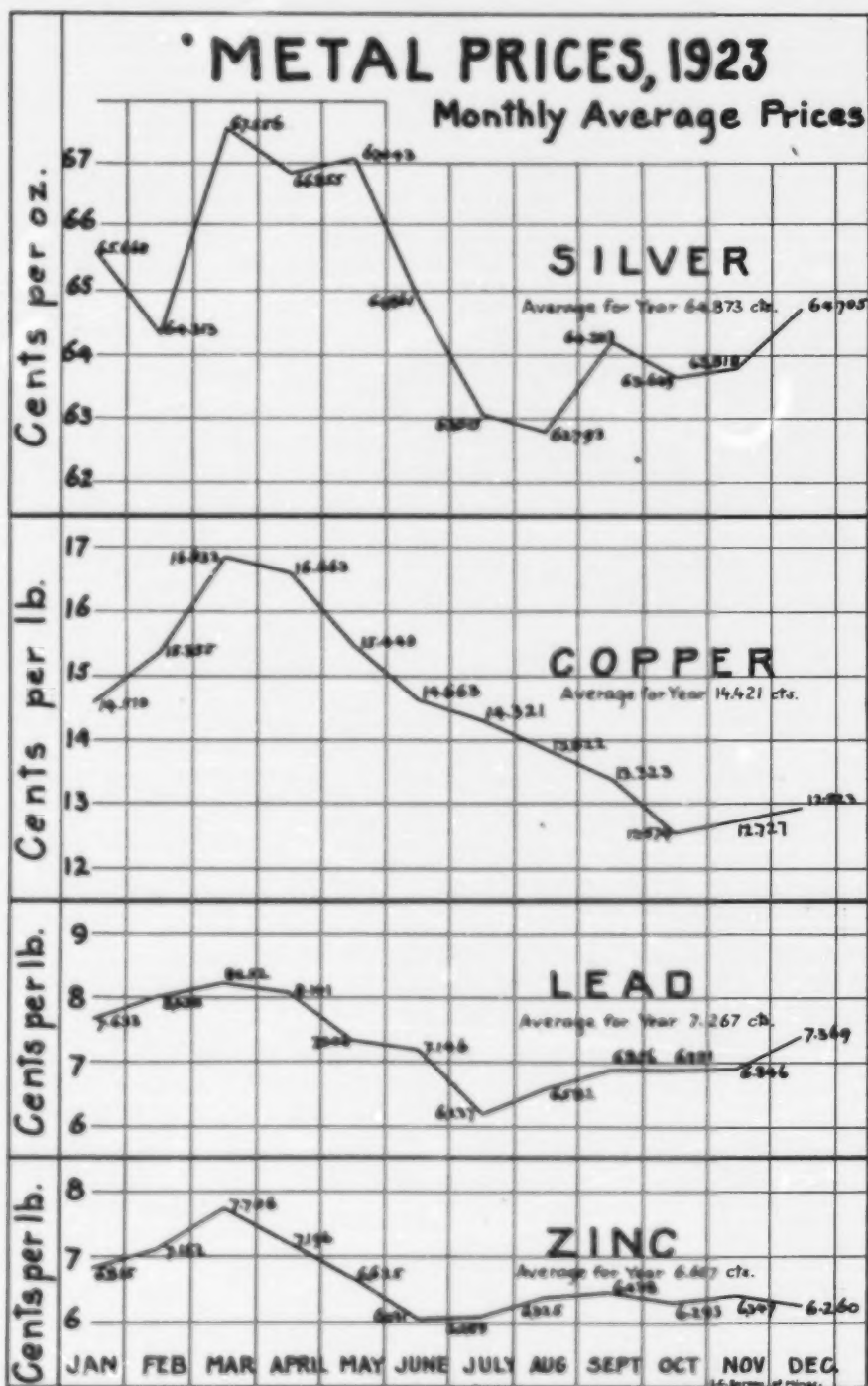
| District.                                                                        | Year.     | Gold—Placer. |         | Gold—Lode. |           | Silver.   |           |
|----------------------------------------------------------------------------------|-----------|--------------|---------|------------|-----------|-----------|-----------|
|                                                                                  |           | Ounces.      | Value.  | Ounces.    | Value.    | Ounces.   | Value.    |
| <b>North-western District (No. 1).</b>                                           |           |              |         |            |           |           |           |
| Atlin, Stikine, and Lard Divisions                                               |           |              |         |            |           |           |           |
| 1920                                                                             |           | 0,980        | 186,000 |            |           |           |           |
| 1921                                                                             | 25        | 7,210        | 164,500 | 3          | 60        | 1,800     | 1,570     |
| 1922                                                                             | 60        | 7,450        | 169,000 | 3          | 60        | 4,100     | 3,605     |
| 1923                                                                             | 12        | 7,870        | 186,000 | 1          | 20        | 1,000     | 602       |
| Neam River Division.                                                             |           |              |         |            |           |           |           |
| 1920                                                                             | 884,170   |              |         | 0,084      | 167,804   | 1,328,130 | 1,167,004 |
| 1921                                                                             | 907,984   |              |         | 0,086      | 177,000   | 866,840   | 757,900   |
| 1922                                                                             | 667,272   |              |         | 0,120      | 188,614   | 896,681   | 786,727   |
| 1923                                                                             | 836,470   |              |         | 0,077      | 166,961   | 664,680   | 574,030   |
| Portland Canal Division.                                                         |           |              |         |            |           |           |           |
| 1920                                                                             | 800       |              |         | 5,586      | 67,180    | 77,800    | 74,100    |
| 1921                                                                             | 16,750    |              |         | 40,194     | 826,940   | 1,177,070 | 701,130   |
| 1922                                                                             | 102,445   |              |         | 123,427    | 2,563,306 | 4,364,320 | 3,784,070 |
| 1923                                                                             | 146,660   |              |         | 117,963    | 2,464,440 | 2,746,561 | 1,686,700 |
| Skeneo, Queen Charlotte, and Bella Coola Divisions                               |           |              |         |            |           |           |           |
| 1920                                                                             | 149,532   | 180          | 3,000   | 44,154     | 912,000   | 21,854    | 20,457    |
| 1921                                                                             | 134,574   | 100          | 2,000   | 38,463     | 784,100   | 20,781    | 19,360    |
| 1922                                                                             | 106,982   |              |         | 36,061     | 725,134   | 17,170    | 16,060    |
| 1923                                                                             | 66,300    |              |         | 30,000     | 613,070   | 17,510    | 16,794    |
| <b>North-eastern District (No. 2).</b>                                           |           |              |         |            |           |           |           |
| Cariboo and Quesnel Divisions                                                    |           |              |         |            |           |           |           |
| 1920                                                                             |           | 3,300        | 66,000  |            |           |           |           |
| 1921                                                                             |           | 3,270        | 65,400  |            |           |           |           |
| 1922                                                                             |           | 9,615        | 192,300 |            |           |           |           |
| 1923                                                                             | 900       | 11,100       | 222,000 | 40         | 800       | 31,400    | 31,000    |
| Omineca and Peace River Divisions.                                               |           |              |         |            |           |           |           |
| 1920                                                                             | 4,000     | 180          | 3,600   | 215        | 4,500     | 107,000   | 96,000    |
| 1921                                                                             | 71        | 150          | 3,000   | 15         | 300       | 2,740     | 2,500     |
| 1922                                                                             | 905       | 375          | 7,500   | 60         | 1,200     | 20,274    | 18,004    |
| 1923                                                                             |           | 430          | 8,600   |            |           |           |           |
| <b>Central District (No. 3).</b>                                                 |           |              |         |            |           |           |           |
| Nicola and Vernon Divisions.                                                     |           |              |         |            |           |           |           |
| 1920                                                                             | 60        |              |         | 14         | 280       | 1,540     | 1,000     |
| 1921                                                                             |           |              |         |            |           |           |           |
| 1922                                                                             | 391       | 175          | 3,500   | 405        | 8,100     | 160       | 160       |
| 1923                                                                             | 2         |              |         | 2          | 40        | 60        | 60        |
| Yale, Ashcroft, and Kamloops Divisions                                           |           |              |         |            |           |           |           |
| 1920                                                                             | 1,025     | 80           | 1,600   | 226        | 4,519     | 407       | 618       |
| 1921                                                                             |           | 80           | 1,600   |            |           |           |           |
| 1922                                                                             | 72        | 150          | 3,000   | 364        | 7,280     |           |           |
| 1923                                                                             | 2,900     | 140          | 2,800   | 800        | 11,600    | 1,300     | 800       |
| Lillooet and Clinton Divisions                                                   |           |              |         |            |           |           |           |
| 1920                                                                             | 500       | 175          | 3,500   | 199        | 3,980     |           |           |
| 1921                                                                             | 800       | 400          | 8,000   | 374        | 7,480     |           |           |
| 1922                                                                             | 1,680     | 375          | 7,500   | 373        | 7,460     |           |           |
| 1923                                                                             |           | 307          | 6,140   |            |           |           |           |
| <b>Southern District (No. 4).</b>                                                |           |              |         |            |           |           |           |
| Grand Forks, Greenwood, and Osoyoos Divisions                                    |           |              |         |            |           |           |           |
| 1920                                                                             | 84,125    | 25           | 500     | 20,888     | 493,066   | 860,681   | 860,680   |
| 1921                                                                             | 41,660    | 25           | 500     | 780        | 15,190    | 100,681   | 66,360    |
| 1922                                                                             | 65,374    | 25           | 500     | 17,818     | 370,886   | 311,780   | 138,004   |
| 1923                                                                             | 46,019    | 240          | 4,800   | 18,534     | 368,006   | 227,047   | 130,000   |
| Similkameen Division.                                                            |           |              |         |            |           |           |           |
| 1920                                                                             | 18,944    | 25           | 500     | 60         | 1,427     | 5,301     | 5,101     |
| 1921                                                                             |           | 20           | 1,000   |            |           |           |           |
| 1922                                                                             |           | 80           | 1,600   |            |           |           |           |
| 1923                                                                             |           | 240          | 4,800   |            |           |           |           |
| <b>Eastern District (No. 5).</b>                                                 |           |              |         |            |           |           |           |
| Fort Steele Division                                                             |           |              |         |            |           |           |           |
| 1920                                                                             | 267,361   | 175          | 3,500   |            |           | 800,140   | 840,000   |
| 1921                                                                             | 796,516   | 140          | 2,800   | 1          | 20        | 846,631   | 329,360   |
| 1922                                                                             | 380,845   | 180          | 3,600   |            |           | 866,020   | 612,190   |
| 1923                                                                             | 689,274   | 180          | 3,600   |            |           | 1,170,003 | 798,130   |
| Windermere and Golden Divisions.                                                 |           |              |         |            |           |           |           |
| 1920                                                                             | 1,877     | 440          | 8,800   |            |           | 22,510    | 21,800    |
| 1921                                                                             | 862       |              |         |            |           | 27,004    | 17,500    |
| 1922                                                                             | 1,33      |              |         |            |           | 66,340    | 50,500    |
| 1923                                                                             | 18,313    |              |         | 20         | 400       | 200,000   | 204,751   |
| Almonorth Division.                                                              |           |              |         |            |           |           |           |
| 1920                                                                             | 8,923     |              |         | 11         | 222       | 115,770   | 66,907    |
| 1921                                                                             | 8,265     |              |         | 35         | 617       | 58,786    | 34,680    |
| 1922                                                                             | 12,980    |              |         | 10         | 200       | 91,470    | 66,370    |
| 1923                                                                             | 86,708    |              |         | 73         | 1,460     | 796,616   | 707,407   |
| Burrton and Nicola City Divisions.                                               |           |              |         |            |           |           |           |
| 1920                                                                             | 66,454    |              |         | 19         | 380       | 190,142   | 111,900   |
| 1921                                                                             | 66,454    |              |         | 214        | 4,280     | 1,104,020 | 708,000   |
| 1922                                                                             | 66,454    |              |         | 311        | 6,223     | 1,066,560 | 666,000   |
| 1923                                                                             | 6,180     | 25           | 500     | 1,004      | 20,080    | 7,300     | 7,300     |
| Nelson and Arrow Lake Divisions.                                                 |           |              |         |            |           |           |           |
| 1920                                                                             | 11,045    | 80           | 1,600   | 2,567      | 74,145    | 2,150     | 1,900     |
| 1921                                                                             | 5,917     |              |         | 2,501      | 50,443    | 7,230     | 4,000     |
| 1922                                                                             | 863       |              |         | 319        | 6,380     | 6,960     | 3,967     |
| 1923                                                                             | 67,714    |              |         | 38,436     | 792,006   | 80,411    | 84,000    |
| Trail Creek Division.                                                            |           |              |         |            |           |           |           |
| 1920                                                                             | 80,107    |              |         | 64,900     | 999,732   | 60,184    | 58,000    |
| 1921                                                                             | 16,982    |              |         | 8,268      | 170,051   | 16,680    | 16,070    |
| 1922                                                                             | 18,660    |              |         | 6,003      | 124,333   | 8,701     | 8,370     |
| Revelstoke, Trout Lake, and Lardner Divisions                                    |           |              |         |            |           |           |           |
| 1920                                                                             | 91        | 50           | 1,000   | 7          | 145       | 7,070     | 7,444     |
| 1921                                                                             | 21        | 50           | 1,000   | 8          | 160       | 8,671     | 8,204     |
| 1922                                                                             | 73        | 50           | 1,000   | 4          | 80        | 4,681     | 4,500     |
| 1923                                                                             |           | 60           | 1,200   |            |           |           |           |
| <b>South-western District (No. 6).</b>                                           |           |              |         |            |           |           |           |
| Vancouver Island (Nanaimo, Alberni, Clayoquot, Quatsino, and Victoria Divisions) |           |              |         |            |           |           |           |
| 1920                                                                             | 6,103     | 25           | 500     | 19         | 380       | 2,760     | 2,500     |
| 1921                                                                             | 1,301     | 25           | 500     | 104        | 2,150     | 600       | 600       |
| 1922                                                                             | 19,000    | 25           | 500     | 65         | 1,344     | 14,360    | 9,210     |
| 1923                                                                             | 33,104    | 20           | 400     | 120        | 2,400     | 17,341    | 16,070    |
| Mainland (Vancouver and New Westminster Divisions)                               |           |              |         |            |           |           |           |
| 1920                                                                             | 608,117   |              |         | 8,012      | 194,300   | 90,670    | 86,004    |
| 1921                                                                             | 67,305    |              |         | 648        | 13,365    | 7,048     | 4,700     |
| 1922                                                                             |           |              |         |            |           |           |           |
| 1923                                                                             | 68,611    |              |         | 4,870      | 100,707   | 100,000   | 67,164    |
| <b>Total.</b>                                                                    |           |              |         |            |           |           |           |
| 1920                                                                             | 2,176,187 | 11,000       | 221,000 | 196,000    | 2,661,300 | 2,377,000 | 2,300,000 |
| 1921                                                                             | 1,989,040 | 11,000       | 222,000 | 186,000    | 2,504,154 | 2,079,300 | 1,961,901 |
| 1922                                                                             | 1,578,100 | 18,240       | 364,800 | 187,000    | 4,080,004 | 7,101,811 | 4,584,700 |
| 1923                                                                             | 2,401,873 | 30,300       | 606,000 | 179,940    | 3,704,564 | 6,582,000 | 3,716,130 |

## METALLIFEROUS MINES, ETC., FOR 1920, 1921, 1922, AND 1923.

| Copper.    |           | Lead.      |           | Zinc.      |            | TOTALS FOR DIVISIONS. |            |            |            | TOTALS FOR DISTRICTS. |
|------------|-----------|------------|-----------|------------|------------|-----------------------|------------|------------|------------|-----------------------|
| Pounds.    | Value.    | Pounds.    | Value.    | Pounds.    | Value.     | 1920.                 | 1921.      | 1922.      | 1923.      | 1923.                 |
|            |           |            |           |            |            |                       |            |            |            | 18,161,002            |
| 10,000     | 1,000     |            |           |            |            | 138,600               | 148,640    |            |            |                       |
| 21,000     | 2,100     | 18,700     | 671       |            |            |                       |            | 156,271    |            |                       |
| 100        | 10        | 705        |           |            |            |                       |            |            | 127,874    |                       |
| 25,000,000 | 4,000,000 |            |           |            |            | 5,709,390             | 4,038,447  |            |            |                       |
| 24,000,000 | 4,000,000 |            |           |            |            |                       |            | 4,908,674  |            |                       |
| 20,000,000 | 4,000,000 | 1,000      | 86        |            |            |                       |            |            | 6,103,065  |                       |
| 20,000,000 | 4,000,000 | 8,813      | 807       |            |            | 121,201               | 1,500,082  |            |            |                       |
| 670        | 60        |            |           |            |            |                       |            | 5,288,460  |            |                       |
|            |           | 68,200     | 4,837     |            |            | 1,006,726             | 802,067    |            |            |                       |
| 700,400    | 100,000   |            |           |            |            |                       |            | 899,275    |            |                       |
| 700,400    | 100,000   |            |           |            |            |                       |            |            | 600,840    |                       |
| 607,000    | 60,700    |            |           |            |            |                       |            |            |            | 279,575               |
| 607,000    | 60,700    |            |           |            |            | 66,000                | 67,400     |            |            |                       |
|            |           |            |           |            |            |                       |            | 192,300    |            |                       |
|            |           | 100,000    | 8,023     |            |            |                       |            |            | 870,875    |                       |
|            |           | 100,000    | 13,567    | 458,515    | 28,500     | 140,335               |            |            |            |                       |
|            |           |            |           | 1,115,601  | 457        |                       | 9,407      |            |            |                       |
| 90,000     | 9,000     | 4,000      | 202       | 21,071     | 1,024      |                       |            | 22,800     |            |                       |
| 1,000      | 100       | 20,979     | 1,599     |            |            |                       |            |            | 0,000      |                       |
|            |           |            |           |            |            |                       |            |            |            | 145,130               |
|            |           | 1,700      | 196       |            |            | 1,964                 |            |            |            |                       |
|            |           |            |           |            |            |                       |            | 12,558     |            |                       |
|            |           |            |           |            |            |                       |            |            | 92         |                       |
| 100,000    | 10,000    |            |           |            |            | 51,849                | 1,000      |            |            |                       |
|            |           |            |           |            |            |                       |            | 10,577     |            |                       |
| 113        | 11        |            |           |            |            |                       |            |            | 137,036    |                       |
| 903,011    | 90,301    |            |           |            |            | 5,980                 | 15,730     |            |            |                       |
|            |           |            |           |            |            |                       |            | 13,710     |            |                       |
|            |           |            |           |            |            |                       |            |            | 8,000      |                       |
|            |           |            |           |            |            |                       |            |            |            | 306,425               |
| 600,000    | 60,000    | 100,000    | 7,630     |            |            | 900,189               |            |            |            |                       |
| 400,000    | 40,000    | 51,000     | 2,007     |            |            |                       | 167,114    |            |            |                       |
|            |           | 100,000    | 7,443     |            |            |                       |            | 514,118    |            |                       |
| 600,000    | 60,000    | 100,000    | 10,530    |            |            |                       | 96,975     |            |            |                       |
|            |           |            |           |            |            |                       | 1,000      |            |            |                       |
|            |           |            |           |            |            |                       |            | 1,000      |            |                       |
|            |           |            |           |            |            |                       |            |            | 5,000      |                       |
|            |           |            |           |            |            |                       |            |            |            | 11,957,294            |
|            |           | 10,000,000 | 1,000,000 | 42,981,002 | 2,706,847  | 5,074,204             |            |            |            |                       |
|            |           | 10,000,000 | 1,000,000 | 40,319,198 | 1,948,106  |                       | 2,834,016  |            |            |                       |
|            |           | 10,000,000 | 1,000,000 | 51,072,816 | 2,611,290  |                       |            | 6,107,082  |            |                       |
|            |           | 10,000,000 | 1,000,000 | 51,040,263 | 2,619,042  |                       |            |            | 9,940,454  |                       |
| 1,000      | 100       | 1,000,000  | 78,457    |            |            | 150,041               |            |            |            |                       |
|            |           | 1,000,000  | 15,747    |            |            |                       | 96,708     |            |            |                       |
|            |           | 1,000,000  | 42,086    |            |            |                       |            | 60,400     |            |                       |
|            |           | 1,000,000  | 73,833    |            |            |                       |            |            | 102,032    |                       |
|            |           | 1,000,000  | 261,613   | 188,100    | 10,314     | 558,330               |            |            |            |                       |
|            |           | 1,000,000  | 51,732    | 22,670     | 804        |                       | 121,700    |            |            |                       |
|            |           | 1,000,000  | 42,667    | 273,949    | 18,314     |                       |            | 90,954     |            |                       |
|            |           | 1,000,000  | 103,470   | 163,904    | 8,630      |                       |            |            | 174,000    |                       |
|            |           | 1,000,000  | 430,308   | 2,715,471  | 242,240    | 1,800,563             |            |            |            |                       |
|            |           | 1,000,000  | 66,030    | 65,984     | 2,606      |                       | 181,011    |            |            |                       |
|            |           | 1,000,000  | 361,896   | 5,164,061  | 251,002    |                       |            | 1,368,086  |            |                       |
|            |           | 1,000,000  | 407,820   | 6,296,306  | 361,311    |                       |            |            | 1,665,194  |                       |
| 750        | 75        | 100,000    | 51,488    |            |            | 98,086                |            |            |            |                       |
| 1,000      | 100       |            |           |            |            |                       | 76,881     |            |            |                       |
| 100        | 10        | 100,000    | 9,190     | 14,051     | 883        |                       |            | 62,019     |            |                       |
|            |           | 100,000    | 12,774    |            |            |                       |            |            | 24,316     |                       |
| 1,110,000  | 111,000   |            |           |            |            | 982,080               |            |            |            |                       |
| 2,877,000  | 287,700   |            |           |            |            |                       | 1,250,233  |            |            |                       |
| 684,000    | 68,400    |            |           |            |            |                       |            | 272,967    |            |                       |
| 971,000    | 97,100    |            |           |            |            |                       |            |            | 109,439    |                       |
|            |           | 100,000    | 410       |            |            |                       |            |            |            |                       |
|            |           | 100,000    | 5,055     |            |            | 14,744                |            |            |            |                       |
|            |           | 100,000    | 561       |            |            |                       | 4,080      |            |            |                       |
|            |           | 100,000    | 8,192     |            |            |                       |            | 7,175      |            |                       |
|            |           |            |           |            |            |                       |            |            | 1,000      |                       |
|            |           |            |           |            |            |                       |            |            |            | 3,000,610             |
| 100,000    | 10,000    |            |           |            |            | 22,880                |            |            |            |                       |
| 60,770     | 6,077     |            |           |            |            |                       | 8,606      |            |            |                       |
| 617,000    | 61,700    |            |           |            |            |                       |            | 90,707     |            |                       |
| 1,000,000  | 100,000   |            |           |            |            |                       |            |            | 163,364    |                       |
| 14,000,000 | 1,400,000 |            |           |            |            | 8,008,253             |            |            |            |                       |
| 1,400,000  | 140,000   |            |           |            |            |                       | 194,566    |            |            |                       |
|            |           |            |           |            |            |                       |            |            |            | 3,333,594             |
| 25,100,000 | 2,510,000 |            |           |            |            |                       |            |            |            |                       |
| 64,907,070 | 6,490,707 | 20,000,000 | 2,000,000 | 2,816,115  | 47,808,286 | 8,077,979             | 10,008,906 |            |            |                       |
| 20,000,000 | 2,000,000 | 20,000,000 | 2,000,000 | 1,800,264  | 48,419,372 | 1,922,085             | 18,168,500 |            |            |                       |
| 20,000,000 | 2,000,000 | 20,000,000 | 2,000,000 | 2,490,816  | 57,146,542 | 2,777,323             |            | 10,590,867 |            |                       |
| 20,000,000 | 2,000,000 | 20,000,000 | 2,000,000 | 3,321,770  | 58,343,493 | 3,376,903             |            |            | 25,707,023 | 26,707,023            |







## PROGRESS OF MINING.

The gross value of the mineral production of the Province for the year 1923 was \$41,304,320, an increase from that of the preceding year of \$8,145,477, or equivalent to an increase of about 17.5 per cent.

It is extremely gratifying to note that the above-mentioned output for the year 1923 has only been exceeded twice in the history of mining in the Province, and that was in 1916, when production reached \$42,290,462, and in 1918, when the figure of \$41,782,474 was attained. In these two years the production was the result of the war-time stimulus of output and war-time prices of the metals.

In the face of the explanation of the causes of these higher years, the output of 1923 is very creditable and indicates that normal conditions are returning, and may be expected to remain.

As noted in last year's Report, and equally true as yet, Europe is the world's metal market, to which practically all export metals find their way. As Europe is the consumer, the industrial conditions of Europe regulate the consumption of and demand for the metals.

That Europe is still in a decidedly unsettled condition at the present time cannot be questioned, but, for all that, the consumption of the metals does seem to have increased, and the greatly overstocked metal market on this continent, which accounted for the tremendous drop in the metal prices in 1921, have been somewhat relieved, with the result that metal prices in 1923 have been materially higher than in 1920, 1921, or 1922.

To illustrate what this increase has been during the past year, the following table shows the average market prices of the various metals for the years 1922 and 1923:—

AVERAGE METAL-MARKET PRICES FOR YEARS 1922 AND 1923.

|                                  | Silver. | Copper. | Lead.  | Zinc.  |
|----------------------------------|---------|---------|--------|--------|
|                                  | Cents.  | Cents.  | Cents. | Cents. |
| 1922.....                        | 67.52   | 13.38   | 5.73   | 5.72   |
| 1923.....                        | 64.87   | 14.42   | 7.27   | 6.61   |
| Percentage increase in 1923..... | *3.92   | 7.77    | 26.87  | 15.57  |

\* Decrease.

To indicate how fluctuating the market has been, charts have been prepared to accompany this Report (pages 15 and 16) which show the monthly fluctuations of metal-market prices from 1913 to date.

It is quite apparent from the charts that there has been a great drop from war-days in all metal prices, but, for all this, it is to be noted that the market prices even at the end of the year 1923 are not lower than the normal pre-war prices, at which profitable mining was carried on under pre-war conditions.

During the year 1922, as shown in table, page 16 of that Report, the market prices steadily increased, and were still increasing during the earlier part of the year 1923, when a slight fall took place, but remain at a point where a margin of profit for the miner is visible.

During the past two years the costs of mining, including wages and supplies, have been materially decreased, so that the outlook for the next year's mining is brighter, and a reasonable margin of profit seems to be assured to the producers.

During 1921 all the large copper-producers of this continent, by concerted action, reduced their output to about 25 per cent. of normal, or shut down entirely, so as to reduce the stocks

of copper on hand; the effect of this movement has now become apparent in the disappearance of the surplus stocks of the metals and the revival of a demand market at a living price.

We now hear that some of these companies have prepared and others are preparing to start up again, which is a sign tending to optimism for the future of the copper market, which reached 14 cents during the last month of 1922, and during the year 1923 very nearly approached 14.5 cents.

During the copper market depression the larger companies got busy in a propaganda for a more extended use of copper, which has been successful in creating a new and increased domestic market for the metal, particularly in the United States, for builders' use, roofs, etc. Some of our large producers, spurred on by sheer necessity, made economies they had not recognized as possible, and are now assured a more profitable future with the return to more normal conditions.

The copper-output for 1923 was 57,720,290 lb., valued at \$8,323,266, an increase over last year's output of 25,360,394 lb., or about 80 per cent., but still below the normal output of the Province.

During most of the year 1921 there was no demand for lead or zinc, and a great amount of such metals in the refined state accumulated at the Trail smelter to an extent that prohibited the further purchase of such ore by the custom smelters, which cause absolutely shut down many of the Slocan mines.

During the latter part of the year 1922 the Trail smelter was fortunate in finding an outlet in the Orient for the greater part of its accumulated lead and zinc stocks on hand, which again permitted prompt cash payment for ores of these metals to be made, and thus again started up these mines in the Slocan, so that the year 1923 has seen these properties working again on a normal basis.

In 1923 the output of lead was 96,663,152 lb., having a value of \$6,321,770, an increase of 29,215,167 lb., or 43 per cent. over 1922, chiefly due to the increased output of the *Sullivan* mine and to the renewed activity of Slocan District mines, due to the fact that the Trail smelter was again able to receive customs lead ores.

The production of zinc in 1923 was 58,843,462 lb., valued at \$3,278,903, an increase over the preceding year, amounting to 1,196,914 lb., or about 3 per cent. The greater amount of this was mined at the *Sullivan* mine in East Kootenay and refined at Trail.

The collieries of British Columbia in 1923 almost held their own, having made a net coal production of 2,453,223 tons (2,240 lb.), slightly less than in 1922.

With the exception of three years, the net coal-output for 1923 is larger than any other year since 1912.

There was 58,919 tons of coke produced in the Crowstun District. The Anyox smelter converted some coal into coke for their own use.

The aggregate of the values of British Columbia colliery products in 1923 was \$12,678,548, this being less than the gross value of this year's metalliferous products of \$25,767,062.

It is noteworthy that the North-western District produced 44 per cent. of the tonnage of ore mined in British Columbia in 1923, carrying about 39 per cent. of the total value of the metalliferous output of the Province.

The following table shows the number of mines which shipped ore during the year 1923, the districts in which they are situated, and the tonnage produced in each district, together with the number of men employed, both above ground and underground.

In explanation of the table it should be said that, in its preparation, a mine employing twelve men for four months is credited in the table with four men for twelve months, so that the total given is less than the actual number of individuals who worked in the mines during the year.

TABLE SHOWING DISTRIBUTION OF SHIPPING MINES IN 1923.

|                                                                             | Tons of Ore shipped. | No. of Mines shipping. | No. of Mines shipping over 100 Tons in 1923. | MEN EMPLOYED IN THESE MINES. |        |        |
|-----------------------------------------------------------------------------|----------------------|------------------------|----------------------------------------------|------------------------------|--------|--------|
|                                                                             |                      |                        |                                              | Below.                       | Above. | Total. |
| No. 1 District.                                                             |                      |                        |                                              |                              |        |        |
| Atlin, Stikine, and Liard.....                                              | 12                   | 1                      | ..                                           | 2                            | 4      | 6      |
| Nass River.....                                                             | 838,478              | 3                      | 2                                            | 215                          | 102    | 317    |
| Portland Canal.....                                                         | 145,665              | 1                      | 1                                            | 181                          | 155    | 336    |
| Skeena, Queen Charlotte, and Bella Coola.....                               | 88,300               | 1                      | 1                                            | 135                          | 75     | 210    |
| No. 2 District.                                                             |                      |                        |                                              |                              |        |        |
| Cariboo and Quesnel.....                                                    | ..                   | ..                     | ..                                           | ..                           | ..     | ..     |
| Omineca and Peace River.....                                                | 269                  | 1                      | 1                                            | 32                           | 46     | 78     |
| No. 3 District.                                                             |                      |                        |                                              |                              |        |        |
| Nicola and Vernon.....                                                      | 2                    | ..                     | ..                                           | ..                           | ..     | ..     |
| Yale, Ashcroft, and Kamloops....                                            | 2,952                | 1                      | 1                                            | 20                           | 18     | 38     |
| Lillooet and Clinton.....                                                   | ..                   | ..                     | ..                                           | ..                           | ..     | ..     |
| No. 4 District.                                                             |                      |                        |                                              |                              |        |        |
| Grand Forks, Greenwood, and Osoyoos.....                                    | 45,019               | 12                     | 3                                            | 124                          | 75     | 199    |
| Similkameen.....                                                            | ..                   | ..                     | ..                                           | ..                           | ..     | ..     |
| No. 5 District.                                                             |                      |                        |                                              |                              |        |        |
| Fort Steele.....                                                            | 489,876              | 4                      | 1                                            | 250                          | 240    | 490    |
| Windermere and Golden.....                                                  | 1,336                | 4                      | 2                                            | 20                           | 10     | 33     |
| Ainsworth.....                                                              | 13,052               | 13                     | 3                                            | 60                           | 36     | 96     |
| Slocan and Slocan City.....                                                 | 62,245               | 31                     | 7                                            | 191                          | 125    | 316    |
| Nelson and Arrow Lake.....                                                  | 451                  | 3                      | 2                                            | 14                           | 4      | 18     |
| Trail Creek.....                                                            | 18,568               | 3                      | 2                                            | 226                          | 114    | 340    |
| Revelstoke, Trout Lake, and Lardreau.....                                   | ..                   | ..                     | ..                                           | ..                           | ..     | ..     |
| No. 6 District.                                                             |                      |                        |                                              |                              |        |        |
| Vancouver Island (Nanaimo, Alberni, Clayoquot, Quatsino, and Victoria)..... | 33,104               | 1                      | 1                                            | 44                           | 21     | 65     |
| Mainland (Vancouver and New Westminster).....                               | 682,511              | 1                      | 1                                            | 453                          | 378    | 831    |
| Totals.....                                                                 | 2,421,839            | 77                     | 28                                           | 1,970                        | 1,403  | 3,373  |

In the following table of the non-shipping mines the returns are necessarily incomplete, as they include only the mines reporting to the Department, and not the prospects and properties under preliminary development, which in the aggregate give employment to a large number of men.

TABLE SHOWING NON-SHIPPING MINES AND MEN EMPLOYED IN 1923.

| District.                                 | NUMBER OF MINES. |       |        | MEN EMPLOYED. |        |        |
|-------------------------------------------|------------------|-------|--------|---------------|--------|--------|
|                                           | Working.         | Idle. | Total. | Below.        | Above. | Total. |
| No. 1.                                    |                  |       |        |               |        |        |
| North-western Mineral Survey District.... | 4                | 3     | 7      | 22            | 29     | 51     |
| No. 2.                                    |                  |       |        |               |        |        |
| North-eastern Mineral Survey District.... | 3                | 3     | 6      | 23            | 36     | 59     |
| No. 3.                                    |                  |       |        |               |        |        |
| Central Mineral Survey District.....      | 5                | 7     | 12     | 18            | 18     | 36     |
| No. 4.                                    |                  |       |        |               |        |        |
| Southern Mineral Survey District.....     | 3                | 14    | 17     | 8             | 1      | 9      |
| No. 5.                                    |                  |       |        |               |        |        |
| Eastern Mineral Survey District.....      | 19               | 53    | 72     | 45            | 19     | 64     |
| No. 6.                                    |                  |       |        |               |        |        |
| Western Mineral Survey District.....      | 1                | 5     | 6      | 16            | 10     | 26     |
| Totals.....                               | 35               | 85    | 120    | 132           | 113    | 245    |

## SUMMARY OF STATISTICAL TABLES.

Referring to the preceding tables of the mineral production of the Province, the following is a summary of their contents:—

TABLE I. shows the total gross value of each mineral product mined in the Province up to the end of 1923, aggregating \$810,722,782. From this table it will be seen that coal-mining has produced more than any other separate class of mining, a total of \$250,968,113; followed next in importance by copper at \$179,046,508, and next in order is lode gold at \$113,352,655, with placer gold in fourth place at \$76,962,203.

TABLE II. shows the value of the total production of the mines of the Province from 1852 to 1895 (inclusive) and for each year from 1896 to 1923 (inclusive), during which period the output increased tenfold, and had a gross production for the year 1923 of \$41,304,320.

The value of the total mineral production of the Province up to the end of 1923 was \$810,722,782.

TABLE III. gives the quantitles in the customary units of measure, and the values, of the various metals or minerals which go to make up the total of the mineral production of the Province, and also, for the purpose of comparison, similar data for the two preceding years.

The table shows that there has been this year an increase in the production of placer gold of \$55,200 and a decrease in output of lode gold of \$384,690, making a decrease of \$325,490 in the total production of the precious metal.

The amount of silver produced this past year was 6,032,986 oz., having a gross value of \$3,718,129, a decrease in the number of ounces produced of 1,068,325.

The table shows an output of lead amounting to 96,663,152 lb., valued at \$6,321,770, an increase in quantity of 29,215,167 lb., and an increase in value of \$2,841,454.

The production of copper this year was 57,720,290 lb., valued at \$8,323,266, an increase in amount of 25,360,394 lb., or about 78 per cent. The value of the product was more than that of the preceding year by \$3,993,512.

The other metals are specifically mentioned under the headings which follow this summary.

TABLE IV. shows the proportions of the total mineral productions made in each of the various districts into which the Province is divided.

It will be noted that this year the Eastern District has the honour of first place on the list, followed, in order of importance, by the Western, North-western, Southern, Central, and North-eastern Districts. The Western and Eastern Districts owe a considerable proportion of their output to the coal-mines situated within their limits, whereas, in the other districts, the production is chiefly from metal-mining.

The Western District also derives a fair proportion of its production from "Miscellaneous products," such as building materials, etc., due to the larger cities therein; this year this amounted to \$2,560,967, as shown in Table V.

TABLE V. is an endeavour to show in some detail the production of those products, such as building materials, previously summarized under "Miscellaneous products," and which amounts this year to \$2,858,710. Much difficulty has been found in obtaining reliable figures regarding these products, and in many cases they have had to be estimated; but, while the figures are not as complete as desired, they are at least approximate, and show what an important branch of mineral production this has become, despite the falling-off due to the war and depressed financial conditions.

TABLE VI. shows the statistical record of the placer mines of the Province from 1858 to 1923, and shows a total production of \$76,962,203. The output for 1923 was \$420,000, an increase, as compared with the previous year, of \$55,200.

TABLE VII. relates entirely to the lode mines of the Province, and shows the quantities and values of the various metals produced each year since the beginning, in 1887, of such mining in the Province. The gross value of the product of these mines to date is \$441,968,975; this figure includes the zinc production of 1909 and all subsequent years.

TABLE VIII. contains the statistics of production of the coal-mines of the Province. The total net amount of coal produced to the end of 1923 was 61,858,556 tons (2,240 lb.), worth \$226,035,113. Of this, there was produced in 1923 2,453,223 tons valued at \$12,266,115. In these figures of coal production the coal used in making coke is not included, as such coal is accounted for in the figures of output of coke. The amount of coal used in making coke in 1923 was 89,764 tons, from which was made 58,919 tons of coke, having a value of \$412,433, an increase in amount

over the preceding year of 13,084 tons. The total value of the output of the collieries of the Province in 1923 was \$12,678,548.

More detailed statistics as to the coal production of the Province and of the separate districts are given elsewhere in this Report.

TABLE IX. gives the details of production of metalliferous mines of the Province for the years 1920, 1921, 1922, and 1923, and the districts in which such productions were made, showing the tonnage of ore mined in each district, with its metallic contents and its market value.

The total tonnage of ore mined in the Province during the year 1923 was 2,421,839 tons, having a gross value of \$25,347,062, and, with the placer gold, a total value of \$25,767,062.

The following table shows the tonnage derived from the various Mining Divisions of the Province:—

|                                               | Tons.     |
|-----------------------------------------------|-----------|
| Nass River Mining Division .....              | 838,478   |
| Portland Canal Mining Division .....          | 145,665   |
| Skeena Mining Division .....                  | 88,800    |
| Grand Forks Mining Division .....             | 45,019    |
| Fort Steele Mining Division .....             | 489,876   |
| Slocan and Slocan City Mining Divisions ..... | 62,245    |
| Vancouver Island Mining Division .....        | 33,104    |
| Mainland Mining Division .....                | 682,511   |
| Other Mining Divisions .....                  | 36,641    |
| Total .....                                   | 2,421,839 |

In reports previous to 1910 there has been included in Table IX. the "Miscellaneous products," and in 1910 these were shown distributed to the various districts; the great increase of these products in the past few years has rendered it advisable that this table be reserved exclusively for metalliferous products, and so a new table (No. V.) was introduced in 1911, giving in some detail the output of these miscellaneous products.

In making comparisons of this table with similar tables in previous reports, the fact that "Miscellaneous" has been removed will have to be borne in mind.

TABLE X. presents in graphic form the facts shown in figures in the tables, and demonstrates to the eye the rapid growth of lode-mining in the Province, and also the fluctuations to which it has been subject.

It will be seen that, although coal-mining has been a constantly increasing industry during this whole period of thirty years, lode-mining did not begin, practically, until 1894, since when it has risen with remarkable rapidity, though not without interruption, until it reached its maximum in 1916, the \$31,500,000 line. The total mineral production in 1910 reached the \$23,000,000 line, in 1912 it reached the \$32,000,000 line, in 1916 the \$42,000,000 line, in 1920 it reached the \$35,500,000 line, in 1921 it passed the \$28,000,000 line, in 1922 was over the \$35,000,000 line, and this year is over the \$41,000,000 line.

TABLE XI. shows graphically the market-price fluctuations in each of the metals during each month from the year 1913 to 1923.

TABLE XII. shows graphically the metal prices for 1923.

### GOLD.

The recovery of placer gold for 1923 was \$420,000, of which practically all Placer Gold. was obtained in the North-eastern and North-western Districts, only about one-twentieth of the total coming from the other districts. An approximate apportionment is as follows: From Cariboo District, \$230,000; Atlin, Stikine, and Liard Divisions of North-western District, \$156,500; remaining parts of the Province, \$33,500. This production for 1923 shows an increase over the preceding year of \$55,200, or about 15.13 per cent.

During the previous four years the production of placer gold in the Province steadily decreased from the output of former years of between \$500,000 and \$700,000, which was due largely to the economic conditions of shortage and high prices of labour and supplies. The output for 1923 noted above brings this year's output above any year since 1917.

The value of lode gold produced in 1923 was \$3,704,994, as compared with \$4,089,684 in 1922, a decrease of \$384,690, or about 9.40 per cent. The Port-land Canal Division, of this, produced a gold value of \$2,424,446, or more than the remainder of the Province. The *Belmont-Surf Inlet* mine in Skeena Division produced \$613,072, and the *Osoyoos* Division \$126,240, chiefly from the *Nickel Plate*; both of these latter properties being strictly gold-mines.

The following table shows the gold production of 1921, 1922, and 1923:—

| Mining Division.                | 1921.   | 1922.   | 1923.   |
|---------------------------------|---------|---------|---------|
|                                 | Oz.     | Oz.     | Oz.     |
| Portland Canal . . . . .        | 40,104  | 123,527 | 117,293 |
| Skeena . . . . .                | 36,483  | 35,081  | 29,660  |
| Nass . . . . .                  | 8,595   | 9,125   | 8,077   |
| Trail Creek (Rossland). . . . . | 44,980  | 8,256   | 6,983   |
| Boundary-Yale. . . . .          | 735     | 17,918  | 11,496  |
| Coast (Southern). . . . .       | 750     | .....   | 4,876   |
| Nelson. . . . .                 | 3,587   | 2,392   | 319     |
| All others. . . . .             | 429     | 1,557   | 541     |
| Totals . . . . .                | 135,663 | 197,856 | 179,245 |

#### SILVER.

The quantity of silver produced was 6,032,986 oz., worth \$3,718,129, a decrease from the production of 1922 in quantity of 1,068,325 oz., and a decrease in value of \$836,652, or nearly 18.36 per cent.

The market price of silver gradually and steadily fell during the whole year of 1920; it rose again in 1921 and 1922, but suffered a decline in 1923. The average price for the year 1920 was 100.9 cents an ounce, and for 1921 it was 62.65 cents, for 1922 it was 67.52 cents, while for 1923 it was 64.87 cents.

An accompanying diagram illustrates the fluctuations of market prices (pages 15 and 16).

The following table shows the silver production for 1921, 1922, and 1923:—

| Mining Division.                | 1921.     | 1922.     | 1923.     |
|---------------------------------|-----------|-----------|-----------|
|                                 | Oz.       | Oz.       | Oz.       |
| Portland Canal. . . . .         | 1,177,978 | 4,264,228 | 2,746,551 |
| Nass . . . . .                  | 365,240   | 399,481   | 444,650   |
| Slocan and Slocan City. . . . . | 188,142   | 1,104,628 | 1,086,582 |
| Boundary District. . . . .      | 160,051   | 211,730   | 228,521   |
| Fort Steele. . . . .            | 546,631   | 956,028   | 1,176,683 |
| Ainsworth . . . . .             | 115,772   | 53,736    | 91,478    |
| Trail Creek . . . . .           | 60,184    | 16,638    | 9,701     |
| Coast (Southern). . . . .       | 8,548     | 14,368    | 126,305   |
| Omineca. . . . .                | 3,745     | 20,274    | 51,410    |
| Windermere-Golden . . . . .     | 18,508    | 27,004    | 46,340    |
| Nelson. . . . .                 | 2,130     | 7,232     | 6,242     |
| All others. . . . .             | 26,460    | 25,964    | 18,523    |
| Totals . . . . .                | 2,673,389 | 7,101,311 | 6,032,986 |

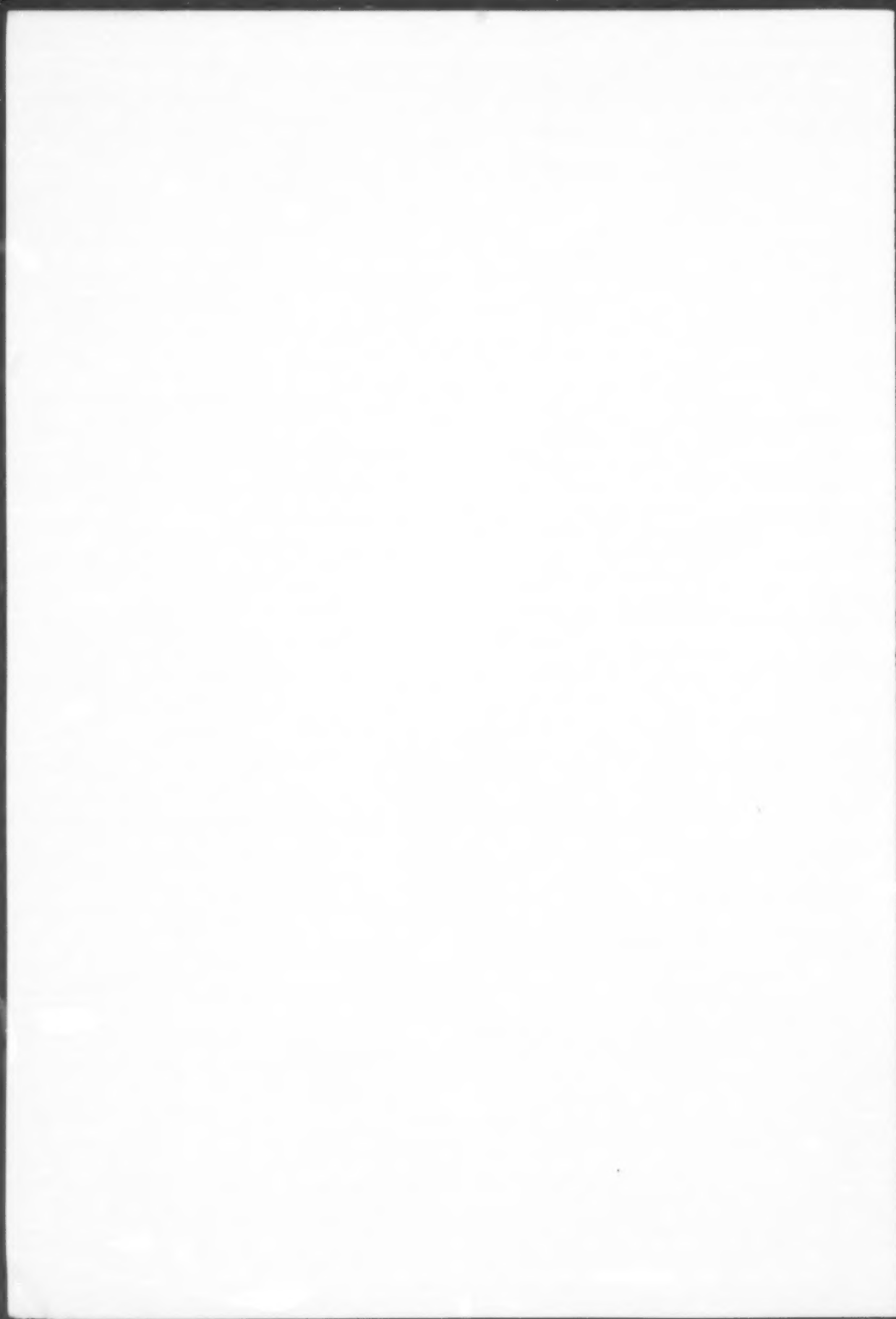
The *Premier* mine in Portland Canal Mining Division was again the largest individual producer.

The Slocan Division produced 1,086,582 oz., while the Fort Steele Division produced 1,176,683 oz. and the Nass River Division 444,650 oz.



Sullivan Mine Concentrator, Kimberley, Fort Steele M.D.

D.C. Bureau of Mining



## COPPER.

The amount of copper produced in 1923 shows, as compared with the previous year, a substantial increase in quantity, with a slight increase in the market selling-price. The production was 57,720,290 lb., which is 25,360,394 lb. more than the 1922 output; the value for this year is \$8,323,266, which, compared with \$4,329,754 made in 1922, shows an increase of \$3,993,512.

The following table shows the production of copper, according to districts, in 1921, 1922, and 1923:—

| Mining Division.           | 1921.      | 1922.      | 1923.      |
|----------------------------|------------|------------|------------|
|                            | Lb.        | Lb.        | Lb.        |
| Nasas .....                | 34,067,185 | 30,334,584 | 32,950,826 |
| Skeena .....               | 748,918    | 697,058    | 457,522    |
| Coast (Southern) .....     | 1,456,146  | 617,691    | 23,197,014 |
| Boundary-Yale .....        | 432,506    | .....      | 843,011    |
| Trail Creek Division ..... | 2,277,392  | 684,930    | 271,091    |
| All others .....           | 54,847     | 25,633     | 826        |
| Totals .....               | 39,036,993 | 32,359,896 | 57,720,290 |

The Granby Company at Anyox in 1923 produced about 57 per cent. of the total of the Province, while the *Britannia*, on Howe sound, which is now back amongst the producers, having started their new mill in February this year, is responsible for about 38 per cent. of the total production. The remainder of the output of the Province was divided between the *Belmont-Surf Inlet* mine in Skeena District, the Rossland camp, Boundary-Yale Division, and the Tidewater Copper Company, on the west coast of Vancouver Island.

The market price of copper during the year 1920 dropped from about 19 cents at the beginning of the year to about 13 cents a pound; in 1921 the price remained between 12 and 13 cents, averaging 12.5 cents; while in 1922 the price for the year averaged 13.38 cents, or 0.9 cent better than the preceding year. During the first two or three months of 1923 the price was around 18 cents, but then began to descend, so that the average price for the year was 14.42 cents.

## LEAD.

The total amount of lead produced in 1923 was 96,663,152 lb., valued at \$6,321,770. This represents, as compared with the previous year, an increase in quantity of 29,215,167 lb., and in value of \$2,841,454.

This represents an increase in quantity of 43 per cent. and an increase in value of 81 per cent. The average market price of lead in 1922 was 5.73 cents a pound, while in 1923 it was 7.26 cents.

The following table shows the production of lead, according to Mining Divisions, for the years 1921, 1922, and 1923:—

| Mining Division.        | 1921.      | 1922.      | 1923.      |
|-------------------------|------------|------------|------------|
|                         | Lb.        | Lb.        | Lb.        |
| Fort Steele .....       | 38,066,880 | 57,743,931 | 85,676,187 |
| Slocan .....            | 1,614,425  | 7,633,924  | 7,612,544  |
| Ainsworth .....         | 1,264,845  | 826,681    | 1,673,847  |
| Windermere-Golden ..... | 385,000    | 815,618    | 1,124,370  |
| Nelson .....            | 1,301      | 176,747    | 210,620    |
| Grand Forks .....       | 51,268     | 144,251    | 161,008    |
| Omineca .....           | .....      | .....      | 122,680    |
| All others .....        | 18,629     | 107,183    | 81,896     |
| Totals .....            | 41,402,288 | 67,447,985 | 96,663,152 |

From the above table it will be seen that there were increases in Fort Steele, Alnsworth, and Windermere Divisions, with a slight decrease in the Slocan.

The Fort Steele District continues to head the list, producing 55,676,157 lb. of lead, which is 90.74 per cent. of the total output of the Province for the year, while Slocan-Alnsworth produced 8.6 per cent. of Provincial product.

In the Slocan the largest producer was the *SilverSmith*, followed by the *Wonderful* and *Bosun*.

In the Alnsworth Division the largest producer was the *Cork-Province*, followed by the *Whitewater Mines, Ltd., Kraso, Florence*, and a number of smaller shippers.

The production from Windermere-Golden was chiefly from the *Paradise* mine.

In the Omineca Mining Division the *Henderson* group produced 122,690 lb.

### ZINC.

The quantity of zinc produced in 1923 amounted to 58,343,462 lb., which, compared with 57,146,548 lb. produced in 1922, shows an increase of 1,196,914 lb. This production is valued at \$3,278,903, which shows an increase, as compared with the 1922 value, of \$501,581, or about 18.6 per cent.

The zinc market in 1921 was not as much affected as the copper and lead markets by the transition period from war demands to peace conditions, with the result that the price of the metal did not fluctuate greatly and production continued uninterruptedly, but dull. In 1922 the market opened the year at 4.5 cents and rose gradually to 7 cents at the end of the year. The year 1923 saw a slight decline in the price of this metal, from close on 7 cents to a little under 6.5 cents at the close of the year. The average price for the year was 6.00 cents.

The following table shows the production of zinc, according to Mining Divisions, for the years 1921, 1922, and 1923:—

| Mining Division. | 1921.      | 1922.      | 1923.      |
|------------------|------------|------------|------------|
|                  | Lb.        | Lb.        | Lb.        |
| Fort Steele..    | 49,319,196 | 51,672,816 | 51,940,253 |
| Slocan.....      | 65,984     | 5,164,661  | 6,249,305  |
| Alnsworth.....   | 22,029     | 273,949    | 133,904    |
| Omineca.....     | 11,561     | 31,071     | .....      |
| All others.....  | .....      | 14,061     | .....      |
| Totals.....      | 49,419,372 | 57,146,548 | 58,343,692 |

From the above table it would seem that practically 89 per cent. of the zinc produced in the Province this last year was from the Fort Steele District. The output in this district was made chiefly by the *Sullivan* mine, and was due to a large tonnage of ore there mined and concentrated, the concentrates from which were shipped to the company's smelting plant at Trail for electrolytic refining.

In the Slocan District the heaviest shipper was the *SilverSmith Mines, Ltd.*, with a production of 2,905,138 lb. The next largest shipper was the *Standard Silver and Lead Mining Company*.

The figures for Alnsworth show a decrease for that district.

There was no zinc produced in the Omineca Division during 1923.

### OTHER MINERALS.

**Iron.** So far there has been no metallic iron produced in British Columbia, but it has been strongly advocated in many quarters that the conditions are favourable for the establishment of an iron-smelting plant somewhere on the British Columbia coast. So far nothing definite has materialized, though there is apparently a prospect of such a plant being established. As is well known, there is on the Coast, in the aggregate, an adequate supply of magnetite-iron ore, quite sufficiently free from impurities as to be within the "Bessemer limit" to supply ore for such a plant.

The shipments of iron made during 1923 were 492 tons bog-iron ore from the *Iron King*, Alta lake, Vancouver Mining Division, and 243 tons magnetite from the *Good Hope*, Texada Island.

**Platinum.** The well-known fact of the wide occurrence of platinum throughout the Province in connection with our placer-gold deposits gives reasonable hope that such may be found in payable quantities and justifies further investigations. As far as reports received indicate, the only output this year is about \$100 worth from the Similkameen District.

**Molybdenite.** Since the Armistice the market is dormant, like other metal prices, but nominal quotations vary from 45 to 50 cents a pound. No advice has been received of any shipment this year.

**Chromite.** In 1918 about 800 tons of chromite ore, carrying from 30 to 45 per cent. chromic oxide, was shipped from the *Mastodon* claim, Grand Forks Division; and a deposit on Scottie creek, near Clinton, was opened up, but no shipments were made. With the end of the war the market for chromite temporarily collapsed, as large stocks were available, with no purchasers in sight. It is believed that no ore was shipped since that date.

**Manganese.**—No manganese was produced in 1923.

**Non-metallic Minerals.** No fluor spar concentrates were shipped from the *Rock Candy* group, in the Grand Forks Division. This property is owned by the Consolidated Mining and Smelting Company. The growth of this property has been very interesting during the last two or three years. It is now equipped with an efficient concentrating-mill, which produced concentrates carrying about 88.5 per cent. calcium fluoride and 5.3 per cent. silica, and having a total value of about \$100,000. The mineral is shipped to Trail smelter and is used for making hydrofluoric acid, which is used in the lead-refinery, and to other points in Canada and to the United States.

The Lillooet Soda Company produced 258 tons of sodium carbonate.

Deposits of hydromagnesite in the Clinton Division, which are reported to be large and of great purity, have attracted considerable attention during the past year.

**Arsenic.**—The *Nickel Plate* mine recovered 609 tons of oxide arsenic in 1923.

**Talc.**—Some 241 tons of talc was mined and ground in the Victoria Mining Division, for which product there appears to be a large demand.

**Iron Pyrites.**—At the *Sullivan* mine in East Kootenay some 1,982 tons of iron pyrites was mined and shipped to Trail.

**Carbonate of Lime.**—Twenty tons was produced at LaFrance creek, Kootenay lake, for agricultural purposes.

## COAL.

The gross production of coal in 1923 was 2,542,987 long tons, of which 89,764 tons was made into coke, leaving the net production at 2,453,223 tons. These figures show a decrease, as compared with 1922, of 37,928 tons gross and of 58,620 tons net. The quantity of coke made was 58,919 tons, which is an increase of 13,084 tons as compared with 1922. For purposes of comparison the following table is shown:—

|                                    | 1918.     | 1919.     | 1920.     | 1921.     | 1922.     | 1923.     |
|------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| Coal, gross ..... tons, 2,340 lb.. | 2,578,724 | 2,408,948 | 2,696,774 | 2,563,639 | 2,580,915 | 2,542,987 |
| Less made into coke ..             | 278,479   | 141,407   | 101,649   | 85,644    | 69,072    | 89,764    |
| Coal, net .....                    | 2,302,245 | 2,267,541 | 2,595,125 | 2,483,995 | 2,511,843 | 2,453,223 |
| Coke made .....                    | 183,967   | 91,138    | 67,792    | 59,434    | 45,835    | 58,919    |

Summarizing the Provincial gross production of coal, the following table shows the output:—

|                                              | 1920.     | 1921.     | 1922.     | 1923.     |
|----------------------------------------------|-----------|-----------|-----------|-----------|
| Vancouver Island mines ..... tons, 2,240 lb. | 1,698,254 | 1,625,931 | 1,754,656 | 1,574,663 |
| Nicola and Similkameen mines .....           | 149,731   | 183,153   | 270,890   | 227,393   |
| Crowanest mines.....                         | 847,389   | 759,755   | 554,361   | 740,531   |
| Omineca-Peace River .....                    | 1,400     | 800       | 1,008     | 400       |
| Total quantity of coal mined..               | 2,696,774 | 2,569,639 | 2,580,915 | 2,542,987 |
| Less made into coke.....                     | 161,649   | 85,644    | 69,072    | 80,764    |
| Net quantity of coal produced ..             | 2,595,125 | 2,483,995 | 2,511,843 | 2,452,223 |

In addition to the above net production of coal, there was made by the collieries the coke production shown in the following table:—

|                                                   | 1920.      | 1921.      | 1922.      | 1923.      |
|---------------------------------------------------|------------|------------|------------|------------|
| Vancouver Island collieries ..... tons, 2,240 lb. | <i>Nil</i> | <i>Nil</i> | 4,435      | <i>Nil</i> |
| Nicola and Similkameen collieries...              | <i>Nil</i> | <i>Nil</i> | <i>Nil</i> | <i>Nil</i> |
| Crowanest District collieries.....                | 67,792     | 59,434     | 41,400     | 58,919     |
| Total coke production .....                       | 67,792     | 59,434     | 45,835     | 58,919     |

As will be seen from the above figures, the net coal production this year is 58,620 tons less than it was in 1922.

The greater part of the gross Provincial coal production is still being mined by three companies—the Crow's Nest Pass Coal Company of East Kootenay, the Canadian Collieries (Dunsmuir), and the Western Fuel Corporation of Vancouver Island, which mined, collectively, 75 per cent. of the gross output.

Of the other collieries: In the Coast District, on Vancouver Island, the Pacific Coast Coal Mines, Limited, is still closed down; the Nanoose Collieries, Limited, produced 85,938 tons; the Granby Company, from their colliery near Cassidy, produced 228,534 tons; and King & Foster, conducting operations at the Old Wellington, made a production of 11,072 tons; and, in addition, the East Wellington Coal Company produced 28,686 tons. In the Nicola Valley section of the district the Middlesboro Colliery Company mined 75,862 tons; the Fleming Coal Company, 3,954 tons; the Princeton Coal and Land Company, 16,645 tons; the Coalmont Colliery, 130,832 tons; and the Chu Chua Colliery, 100 tons.

In the Omineca District the Telkwa Collieries, Limited, shipped 335 tons. The Peace River coal property, a new producer in the Peace River canyon, shipped 65 tons. These two properties combined shipped 400 tons, and for convenience this has been included in the Coast District figures. The Aveling coal property did not ship during 1923.

In the East Kootenay District, in addition to the Crow's Nest Pass Coal Company, which produced 692,265 tons, the Corbin Coal and Coke Company produced 48,266 tons.

The collieries of the Coast District, including the Nicola-Princeton and Telkwa fields, are to be credited this year with about 70 per cent. of the total coal-output.

The gross output of the collieries of the Province for the past year was, as already stated, 2,542,987 tons, which includes 6,218 tons of coal added to stock.

Of this gross amount, there was sold for consumption in Canada, 1,491,737 tons; sold for consumption in the United States, 556,632 tons; sold in other countries, *nil*; making the total coal sales for the year 2,048,369 tons of 2,240 lb.

In addition to the coal sold, there was used in the manufacture of coke 80,764 tons, and used under companies' boilers, etc., 216,099 tons; while 182,537 tons was lost in washing and screening.

The coke sales of the Province for the past year amounted to 58,882 tons, which, together with 537 tons added to stock, make a total production of 58,919 tons.

The following table indicates the markets in which the coal and coke output of the Province was sold:—

| COAL.                                                | Coast District. | Crowmest Pass District. | Total for Province. |
|------------------------------------------------------|-----------------|-------------------------|---------------------|
| Sold for consumption in Canada ..... tons, 2,240 lb. | 1,254,941       | 236,796                 | 1,491,737           |
| " export to United States .....                      | 202,907         | 353,725                 | 556,632             |
| " export to other countries .....                    | <i>Nil</i>      | <i>Nil</i>              | <i>Nil</i>          |
| Total coal sales .....                               | 1,457,848       | 590,521                 | 2,048,369           |
| COKE.                                                |                 |                         |                     |
| Sold for consumption in Canada ..... tons, 2,240 lb. | <i>Nil</i>      | 34,816                  | 34,816              |
| " export to United States .....                      | <i>Nil</i>      | 23,564                  | 23,564              |
| " export to other countries .....                    | <i>Nil</i>      | <i>Nil</i>              | <i>Nil</i>          |
| Total coke sales .....                               | <i>Nil</i>      | 58,382                  | 58,392              |

## COLLIERIES OF COAST DISTRICT.

The collieries of the Coast District, which includes those on Vancouver Island and in the Nicola-Princeton fields, and two small collieries, one in Omineca District and the other in Peace River District, mined 1,802,456 tons of coal in 1923, of which 5,225 tons was added to stock, making 1,797,231 tons distributed from these collieries in 1923. This amount was distributed thus:—

|                                          | Tons.      | Tons. |
|------------------------------------------|------------|-------|
| Sold as coal in Canada .....             | 1,254,941  |       |
| Sold as coal in United States .....      | 202,907    |       |
| Sold as coal in other countries .....    | <i>Nil</i> |       |
| Total sold as coal .....                 | 1,457,848  |       |
| Used under companies' boilers, etc. .... | 156,846    |       |
| Used in making coke .....                | <i>Nil</i> |       |
| Lost in washing, etc. ....               | 182,537    |       |
|                                          | 1,797,231  |       |
| Plus coal added to stock .....           | 5,225      |       |
| Gross output .....                       | 1,802,456  |       |

The total coal sales of the Coast collieries for the year show, as compared with the sales of the previous year, a decrease of 230,002 tons, equivalent to about 13 per cent.

The coal sold in Canada by the collieries of the Coast District this year shows a decrease of 4,242 tons, or about 0.33 per cent. less than the preceding year; the amount exported to the United States was 215,760 tons less than the preceding year, a decrease of about 50 per cent.

No coke was produced in the Coast District this year.

On Vancouver Island six companies produced coal this year—the Canadian Collieries (D.), Limited, the Western Fuel Corporation of Canada, Limited, the Granby Consolidated Mining, Smelting, and Power Company, the Nanoose Collieries, Limited, the Old Wellington, and the East Wellington Coal Company; the majority of these companies each operate two, or more, collieries. The combined gross output of the Island collieries was 1,574,863 tons.

In the Nicola and Princeton coalfields of the Coast District the Middlesboro Colliery Company produced 75,862 tons of coal; the Fleming Coal Company, 3,954 tons; the Princeton Colliery, 16,645 tons; the Coalmont Collieries, 130,832 tons; the Chu Chua Collieries, 100 tons; the Community Coal and Coke Company did not produce during 1923.

The total output of this portion of the sub-district was 227,393 tons. The Telkwa Collieries produced 335 tons and the Peace River coal property 65 tons. The Aveling coal property did not ship during 1923.

## EAST KOOTENAY COALFIELD.

There were only two companies operating in this district this past year—the Crow's Nest Pass Coal Company, operating two separate collieries, which together mined 692,265 tons; and the Corbin Coal and Coke Company, which mined 48,206 tons; making a gross output for the district for 1923 of 740,531 tons of coal.

The amount of coal actually distributed was 739,538 tons, which, together with 993 tons added to stock, shows the total production of 740,531 tons.

Of this gross tonnage, 89,764 tons was used in the manufacture of coke, of which there was produced 58,919 tons (2,240 lb.), of which 58,382 tons were sold and 537 tons added to stock.

The following table shows the distribution made of the coal of this district:—

|                                                | Tons.   | Tons.   |
|------------------------------------------------|---------|---------|
| Sold as coal in Canada .....                   | 236,796 |         |
| Sold as coal in United States .....            | 353,725 |         |
|                                                |         |         |
| Total sold as coal .....                       |         | 590,521 |
| Used by the companies in making coke .....     |         | 89,764  |
| Used by the companies under boilers, etc. .... |         | 59,253  |
|                                                |         |         |
|                                                |         | 739,538 |
| Plus coal added to stock .....                 |         | 993     |
|                                                |         |         |
| Gross output .....                             |         | 740,531 |

## BUILDING MATERIALS.

The output during 1923 of structural materials, such as cement, lime, building-stone, sand and gravel, brick and other clay products, was more than in the preceding year, being \$2,809,292 as against \$2,533,926.

Approximately 90 per cent. of the total production of building materials comes from the Coast District, and the larger part of this finds its markets in the Coast cities.

It is probable that an output amounting to about \$1,500,000 represents the steady yearly demand for these materials for use in repairs, renewals, and various small demands, with a little more construction-work in 1923.

Cement production is greater than 1922.

Public works and several large buildings have caused the quarrying of a good Building-stone. deal of building-stone, and the production in 1923 is valued at \$108,110.

Excellent building-stone of various sorts is found in abundance in almost every part of the Province; the fact of its widespread distribution has, however, been somewhat against the establishment of large quarrying industries, as a sufficient local supply could always be obtained, and, except within reach of the larger cities, few regularly equipped quarries have been opened.

On the Coast, chiefly between Vancouver Island and the Mainland, there are several well-equipped quarries taking out granite, sandstone, and andesite, all of excellent quality. These quarries supply the stone building material of the Coast cities, and have also exported to the United States.

A detailed description of the more important quarries was given in the Report of this Bureau for 1904.

Red Brick. The sale of red brick during 1923 was about 7,800 M.; the price varies from \$12 to \$16 a thousand, according to quality and demand. This small output shows very clearly that but little construction-work has been carried on.

It is probable, however, that a considerable quantity of brick is still imported into the Province.

Firebrick. The only company producing firebrick in the Province is the Clayburn Company, Limited, with a plant at Clayburn. The fireclay is found here as a bed occurring in bedded rocks of Eocene age. Shales, sandstones, and conglomerates, all but little consolidated, make up this sedimentary series. The shales are quarried or

mined for brick-making and one bed is an excellent fireclay. Associated with these rocks is a bed of lignite which is sufficiently good to be used for firing the boilers of the plant. Firebrick is the principal manufactured article produced by this company, but, in addition, considerable quantities of paving-brick, tiles, drain-pipes, fireclay blocks and shapes, and prepared fireclay are made.

**Lime.**

The manufacture of lime is conducted in a small way at a large number of points in the Province, but only on the Coast has any attempt been made at more extensive operations. In the neighbourhood of Victoria, on Esquimalt harbour, two kilns are in operation, and there are two kilns on Saanich Inlet. On Texada Island—in addition to the plant at Marble Bay—a new and extensive plant was erected at Blubber Bay a few years ago. The limestone being used is of exceptional purity, but in some instances the limestone-beds are cut by igneous dykes which have to be rejected, and this somewhat increases the cost of quarrying.

The production of lime and limestone for 1923 is valued at \$490,210, as compared with \$400,860 in 1922. Of this about \$14,410 worth of limestone was quarried for use as smelter flux by the Consolidated Mining and Smelting Company and \$10,180 worth quarried by the paper and pulp mills for their own use.

**Crushed Rock  
and Gravel.**

The returns for crushed rock and gravel indicate an increased demand for this material, the value of 1923 production being \$151,102, although some of the plants have not been in operation for the past two or three years. During the boom years of 1911 and 1912 a number of well-equipped plants were put up near Vancouver and Victoria for supplying washed sand and gravel, properly screened to size. Some of these companies use a system of mining the gravel by hydraulic streams and carrying the product to the screens by the water used.

## METALLIFEROUS MINES SHIPPING IN 1923.

## NORTH-WESTERN DISTRICT (No. 1).

## ATLIN MINING DIVISION.

| Mine or Group. | Locality.  | Owner or Agent.    | Address.    | Character of Ore. |
|----------------|------------|--------------------|-------------|-------------------|
| Cherokee.....  | Atlin..... | J. M. Ruffner..... | Atlin. .... | Silver, lead.     |

## SKEENA MINING DIVISION.

|                      |                  |                                 |                  |                       |
|----------------------|------------------|---------------------------------|------------------|-----------------------|
| Belmont-Surf Inlet.. | Surf Inlet ..... | Belmont-Surf Inlet Mines, Ltd.. | Surf Inlet ..... | Gold, silver, copper. |
|----------------------|------------------|---------------------------------|------------------|-----------------------|

## NASS RIVER MINING DIVISION.

|                    |                      |                                 |                                     |                       |
|--------------------|----------------------|---------------------------------|-------------------------------------|-----------------------|
| Esperanza.....     | Kitasault river..... | R. Armour, Sec.....             | Anyox.....                          | Silver, gold.         |
| Hidden creek.....  | Anyox.....           | Granby Cons. M. S. & P. Co..... | Anyox.....                          | Copper, silver, gold. |
| United Metals..... | Illicance river..... | T. H. Pidduck.....              | 222 Lumber Exchg.<br>Bldg., Seattle | Silver, lead.         |

## PORTLAND CANAL MINING DIVISION.

|              |                   |                                |              |               |
|--------------|-------------------|--------------------------------|--------------|---------------|
| Premier..... | Salmon river.. .. | Premier Gold Mining Co., Ltd.. | Premier..... | Gold, silver. |
|--------------|-------------------|--------------------------------|--------------|---------------|

## NORTH-EASTERN DISTRICT (No. 2).

## OMINECA MINING DIVISION.

|                |                       |                        |               |               |
|----------------|-----------------------|------------------------|---------------|---------------|
| Henderson..... | Hudson Bay mountain.. | Duthie Mines, Ltd..... | Smithers..... | Silver, lead. |
|----------------|-----------------------|------------------------|---------------|---------------|

## CENTRAL DISTRICT (No. 3).

## YALE, ASHCROFT, AND KAMLOOPS MINING DIVISIONS.

|                |               |                          |               |               |
|----------------|---------------|--------------------------|---------------|---------------|
| Iron Mask..... | Kamloops..... | Kamloops Copper Co. .... | Kamloops..... | Gold, silver. |
|----------------|---------------|--------------------------|---------------|---------------|

## NICOLA AND VERNON MINING DIVISIONS.

|              |       |                        |                                  |               |
|--------------|-------|------------------------|----------------------------------|---------------|
| Octagon..... | ..... | Octagon Mining Co..... | F. H. Jewell, Oak-<br>land, Cal. | Silver, gold. |
|--------------|-------|------------------------|----------------------------------|---------------|

## SOUTHERN DISTRICT (No. 4).

## GREENWOOD MINING DIVISION.

|                     |                        |                             |                               |               |
|---------------------|------------------------|-----------------------------|-------------------------------|---------------|
| Bell.....           | Wallace mountain ..... | J. N. Paton. ....           | Greenwood.....                | Silver, gold. |
| Bounty Fraction...  | Wallace mountain ..... | John McKellar.....          | Beaverdell .....              | Silver.       |
| Combination.....    | Greenwood.....         | Eholt Mining Co.....        | 310 Hyde Building,<br>Spokane | Silver.       |
| Crescent.....       | Greenwood.....         | Wm. A. Thompson.....        | Midway.....                   | Silver.       |
| Lightning Peak..... | Lightning Peak.....    | W. Williams.....            | Edgewood.....                 | Silver.       |
| Nodaway.....        | Wallace mountain ..... | Jas. Cunningham.....        | Beaverdell.....               | Silver.       |
| Preston.....        | Greenwood.....         | E. A. Wanke.....            | Greenwood.....                | Silver.       |
| Providence.....     | Greenwood.....         | Revenge Syndicate.....      | Providence.....               | Silver, lead. |
| Revenge.....        | Beaverdell.....        | Wallace Mt. Mines, Ltd..... | Beaverdell.....               | Silver lead.  |
| Sally.....          | Beaverdell.....        | .....                       | Penticton.....                | Silver.       |

## OSOYOOS AND SIMILKAMEEN MINING DIVISIONS.

|                   |                  |                            |                  |                |
|-------------------|------------------|----------------------------|------------------|----------------|
| Nickel Plate..... | Hedley.....      | Hedley Gold Mining Co..... | Hedley.....      | Gold, arsenic. |
| Shipper.....      | Similkameen..... | Fred Bowden.....           | Similkameen..... | Silver.        |

## EASTERN DISTRICT (No. 5).

## PORT STEELE MINING DIVISION.

| Mine or Group.  | Locality.       | Owner or Agent.              | Address.       | Character of Ore.   |
|-----------------|-----------------|------------------------------|----------------|---------------------|
| Quindon.....    | Moyle.....      | F. Quindon.....              | Moyle.....     | Silver, lead, zinc. |
| Park.....       | Marysville..... | J. F. Hutchcroft.....        | Cranbrook..... | Silver, lead.       |
| St. Eugene..... | Moyle.....      | Consolidated M. & S. Co..... | Trail.....     | Silver, lead.       |
| Sullivan.....   | Kimberley.....  | Consolidated M. & S. Co..... | Trail.....     | Lead, zinc, silver. |

## GOLDEN AND WINDERMERE MINING DIVISIONS.

|                 |                 |                         |                 |               |
|-----------------|-----------------|-------------------------|-----------------|---------------|
| Innaco.....     | Brisco.....     | J. J. Coughlan, Jr..... | Vancouver.....  | Lead, silver. |
| Nip & Tuck..... | Toby creek..... | W. D. McMillan.....     | Windermere..... | Silver, lead. |
| Paradise.....   | Toby creek..... | R. R. Bruce.....        | Invermere.....  | Silver, lead. |
| Steele.....     | Brisco.....     | A. J. Hughes.....       | Brisco.....     | Silver, lead. |

## AINSWORTH MINING DIVISION.

|                   |                     |                                 |                                      |                     |
|-------------------|---------------------|---------------------------------|--------------------------------------|---------------------|
| Caledonia.....    | Blaylock.....       | A. S. McCready.....             | Silverton.....                       | Silver, lead.       |
| Cork.....         | Ainsworth.....      | Cork-Providence Mines, Ltd..... | Kaslo.....                           | Lead, silver, zinc. |
| Florence.....     | Ainsworth.....      | Florence Silver Mining Co.....  | 517 Hutton Building,<br>Spokane..... | Lead, silver.       |
| Howser.....       | Glacier creek.....  | Howser Mining Co.....           | Howser.....                          | Silver, lead.       |
| Krao.....         | Ainsworth.....      | Krao Silver Lead Mining Co..... | Kaslo.....                           | Silver, lead.       |
| Liberty.....      | Keen creek.....     | Wm. Y. Williams.....            | Spokane.....                         | Lead, silver.       |
| Maestro.....      | Ainsworth.....      | H. Giegerich.....               | Kaslo.....                           | Lead, silver.       |
| Sailor Boy.....   | Crawford creek..... | G. Foulkes.....                 | Roseland.....                        | Lead, silver.       |
| Silver Bear.....  | South fork.....     | M. S. Davys.....                | Kaslo.....                           | Silver, lead.       |
| Silver Hoard..... | Ainsworth.....      | H. Giegerich.....               | Kaslo.....                           | Silver, lead.       |
| Tariff.....       | Ainsworth.....      | Tariff Mining Co.....           | Box 823, Nelson.....                 | Lead, silver.       |
| Whitewater.....   | Retallack.....      | Whitewater Mines, Ltd.....      | Kaslo.....                           | Silver, zinc, lead. |

## SLOCAN MINING DIVISION.

|                     |                  |                                  |                      |                     |
|---------------------|------------------|----------------------------------|----------------------|---------------------|
| American Boy.....   | Sandon.....      | John Vallance.....               | Box 171, Sandon..... | Silver, lead, zinc. |
| Black Colt.....     | Sandon.....      | George Petty.....                | Sandon.....          | Silver, zinc, lead. |
| Boston.....         | New Denver.....  | Rosebery-Surprise Mining Co..... | New Denver.....      | Silver, lead, zinc. |
| Canadian.....       | Sandon.....      | J. M. Brandon.....               | Sandon.....          | Silver, lead.       |
| Galena Farm.....    | Silverton.....   | R. F. Ainslie.....               | Silverton.....       | Silver, lead, zinc. |
| Gem.....            | Sandon.....      | M. J. Byrne.....                 | Sandon.....          | Lead, silver.       |
| Hewitt.....         | Silverton.....   | M. S. Davys.....                 | Box 397, Kaslo.....  | Silver, lead.       |
| Metallic.....       | Silverton.....   | A. S. McCready.....              | Silverton.....       | Silver, lead.       |
| Moille Hughes.....  | New Denver.....  | Molly Hughes Syndicate.....      | New Denver.....      | Silver, gold, lead. |
| Monitor.....        | Sandon.....      | Rosebery-Surprise Mining Co..... | Sandon.....          | Silver, lead, zinc. |
| Mountain Chief..... | New Denver.....  | Frank Edwards.....               | New Denver.....      | Silver, lead, zinc. |
| Rambler.....        | New Denver.....  | W. A. Cameron.....               | New Denver.....      | Silver, lead.       |
| Ruth.....           | Sandon.....      | J. B. Sunderland.....            | Vancouver.....       | Silver, lead.       |
| Silversmith.....    | Sandon.....      | J. B. White.....                 | Spokane.....         | Silver, lead, zinc. |
| Sovereign.....      | Sandon.....      | C. Cunningham.....               | Sandon.....          | Silver, lead.       |
| Standard.....       | Silverton.....   | W. H. North.....                 | Silverton.....       | Silver, zinc, lead. |
| Surprise.....       | Sandon.....      | Rosebery-Surprise Mining Co..... | Sandon.....          | Silver, lead, zinc. |
| Van Rai.....        | Silverton.....   | C. Cunningham.....               | Silverton.....       | Silver, lead, gold. |
| Victor.....         | Sandon.....      | Geo. Petty.....                  | Sandon.....          | Silver, lead, gold. |
| Loce Bachelor.....  | Sandon.....      | J. C. Ryan.....                  | Sandon.....          | Silver, lead, zinc. |
| Boho.....           | Three Forks..... | G. T. Gormley.....               | Sandon.....          | Silver, lead.       |
| Elkhorn.....        | Alamo.....       | O. V. White.....                 | Sandon.....          | Silver, lead.       |
| Monday.....         | Sandon.....      |                                  | Sandon.....          | Silver, lead.       |

## SLOCAN CITY MINING DIVISION.

|                   |                     |                      |                 |                     |
|-------------------|---------------------|----------------------|-----------------|---------------------|
| Anna.....         | Springer creek..... | K. E. Zimmerman..... | Slocan.....     | Silver.             |
| L. T.....         | Springer creek..... | D. B. O'Neill.....   | Slocan.....     | Silver, lead.       |
| Melcor.....       | Slocan.....         | W. A. Buchanan.....  | Slocan.....     | Silver, gold.       |
| Ottawa.....       | Slocan.....         | E. Graham.....       | Slocan.....     | Silver.             |
| Peg Leg.....      | New Denver.....     | E. Shannon.....      | New Denver..... | Silver, lead, zinc. |
| Slocan Chief..... | Enterprise.....     | Pat McGuire.....     | Slocan.....     | Silver, lead.       |

## NELSON AND ARROW LAKE MINING DIVISIONS.

|                     |                    |                     |                      |                       |
|---------------------|--------------------|---------------------|----------------------|-----------------------|
| Emerald.....        | Sheep creek.....   | W. J. Turner.....   | Salmo.....           | Silver, lead.         |
| Granite.....        | Granite.....       | D. H. Norcross..... | Box 290, Nelson..... | Gold, silver, copper. |
| Kootenay Belle..... | Salmo.....         | Arthur Lakes.....   | Salmo.....           | Gold, silver.         |
| Molly Gibson.....   | Kokanee creek..... | W. A. Cameron.....  | New Denver.....      | Silver, lead.         |

## TRAIL CREEK, TROUT LAKE, REVELSTOKE, AND LARDEAU MINING DIVISIONS.

| Mine or Group.   | Locality.    | Owner or Agent.              | Address.     | Character of Ore.     |
|------------------|--------------|------------------------------|--------------|-----------------------|
| Golden Drip..... | Rosland..... | M. E. Purcell.....           | Rosland..... | Gold, silver, lead.   |
| I.X.L.....       | Rosland..... | R. B. Shellady.....          | Rosland..... | Gold, silver.         |
| Le Roi, etc..... | Rosland..... | Consolidated M. & S. Co..... | Rosland..... | Gold, copper, silver. |

## WESTERN DISTRICT (No. 6).

## VANCOUVER AND SMALLER ISLANDS; VANCOUVER AND NEW WESTMINSTER DIVISIONS.

|                |                      |                     |                     |                       |
|----------------|----------------------|---------------------|---------------------|-----------------------|
| Britannia..... | Britannia Beach..... | C. P. Browning..... | Britannia Beach.... | Copper, gold, silver. |
| Tidewater..... | Sidney inlet.....    | C. J. Abrams.....   | Sidney Inlet.....   | Copper, silver, gold. |

## DEPARTMENT OF MINES.

VICTORIA, B.C.

HON. WM. SLOAN, *Minister of Mines.*R. F. TOLMIE, *Deputy Minister.*WM. FLEET ROBERTSON, *Provincial Mineralogist and Assayer.*D. E. WHITTAKER, *Provincial Analyst and Assistant Assayer.*GEO. WILKINSON, *Chief Inspector of Mines.*HENRY DEVLIN, *District Inspector, Nanaimo.*T. R. JACKSON, *District Inspector, Nanaimo.*ROBERT STRACHAN, *District Inspector, Fernie.*JOHN MACDONALD, *District Inspector, Fernie.*JOHN G. BIGGS, *District Inspector, Merritt.*THOS. J. SHENTON, *Dist. Inspector, Prince Rupert.*H. H. JOHNSTONE, *Temporary Inspector, Nelson.**Resident Mining Engineers.*

GEO. A. CLOTHIER, No. 1 District, Prince Rupert.

J. D. GALLOWAY, No. 2 District, Hazelton.

A. W. DAVIS, No. 3 District, Kamloops.

P. B. FREELAND, No. 4 District, Grand Forks.

A. G. LANGLEY, No. 5 District, Revelstoke.

W. M. BREWER, No. 6 District, Nanaimo.

## GOLD COMMISSIONERS AND MINING RECORDERS.

| Mining Division.              | Location of Office.         | Gold Commissioner.             | Mining Recorder.             | Sub-Recorder.                  |
|-------------------------------|-----------------------------|--------------------------------|------------------------------|--------------------------------|
| Atlin Mining Division..       | Atlin .....                 | C. L. Monroe. ....             | C. L. Monroe. ....           | Miss N. M. Mearing             |
| Sub-office .....              | Telegraph Creek ..          | .....                          | .....                        | H. W. Dodd.                    |
| " .....                       | Haines (U.S.) .....         | .....                          | (Com. for taking Affidavits) | Ridson M. Odell.               |
| " .....                       | Juneau (U.S.) .....         | .....                          | Ditto .....                  | Harold E. Brown.               |
| Stikine Mining Division ..    | Telegraph Creek ..          | H. W. Dodd .....               | H. W. Dodd .....             | John Wynne.                    |
| Sub-office .....              | Boundary .....              | " .....                        | " .....                      | Chas. H. Smith.                |
| Liard Mining Division ..      | Telegraph Creek ..          | " .....                        | " .....                      | Mike Larsen.                   |
| Sub-office .....              | Porter .....                | .....                          | .....                        | F. W. Beaton.                  |
| " .....                       | McDame Creek .....          | .....                          | .....                        | G. L. Anderson.                |
| " .....                       | Fort St. John .....         | .....                          | .....                        | E. Clough.                     |
| Skeena Mining Division ..     | Prince Rupert .....         | T. W. Herne .....              | T. W. Herne .....            | L. G. Skinner.                 |
| Sub-office .....              | Kitimat .....               | .....                          | .....                        | L. H. Kenny.                   |
| " .....                       | Swanson Bay .....           | .....                          | .....                        | Mrs. C. Warner.                |
| " .....                       | Copper City .....           | .....                          | .....                        | J. P. Scarlett (Act-<br>(ing). |
| " .....                       | Terrace .....               | .....                          | .....                        | A. F. Priestly.                |
| " .....                       | Rosewood .....              | .....                          | .....                        | Mrs. L. Cummings.              |
| " .....                       | Stewart (Portland Canal) .. | .....                          | .....                        | .....                          |
| Nass River .....              | Anyox .....                 | T. W. Herne .....              | J. Conway .....              | .....                          |
| Sub-office .....              | Aiyansh .....               | " .....                        | .....                        | .....                          |
| " .....                       | Alice Arm .....             | .....                          | .....                        | .....                          |
| Portland Canal M.D. ....      | Stewart .....               | T. W. Herne (at Prince Rupert) | J. P. Scarlett .....         | .....                          |
| Bella Coola Mining Div. ....  | Prince Rupert .....         | T. W. Herne .....              | T. W. Herne .....            | Brynild Brynildsen.            |
| Sub-office .....              | Bella Coola .....           | .....                          | .....                        | John A. Pauline.               |
| " .....                       | Bella Bella .....           | .....                          | .....                        | Geo. H. Hill.                  |
| " .....                       | Ocean Falls .....           | .....                          | .....                        | Isaac Thompson.                |
| Queen Charlotte Min'g D. .... | Queen Charlotte ..          | T. W. Herne .....              | John L. Barge .....          | A. W. Collins.                 |
| Sub-office .....              | Jedway .....                | .....                          | .....                        | William Morgan.                |
| " .....                       | Maaset .....                | .....                          | .....                        | T. A. Perry.                   |
| " .....                       | Lockeport .....             | .....                          | .....                        | A. T. Sherwood.                |
| Omineca Mining Division ..    | Smithers .....              | Stephen H. Hoskins             | Jas. E. Kirby .....          | Alex. C. Murray.               |
| Sub-office .....              | Fort Grahame .....          | .....                          | .....                        | W. B. Steele.                  |
| " .....                       | Finlay Forks .....          | .....                          | .....                        | T. J. Thorp.                   |
| " .....                       | Fort St. James .....        | .....                          | .....                        | Geo. Milburn.                  |
| " .....                       | Manson Creek .....          | .....                          | .....                        | .....                          |
| " .....                       | Telkwa .....                | .....                          | .....                        | .....                          |
| " .....                       | Fort George .....           | .....                          | .....                        | .....                          |

## GOLD COMMISSIONERS AND MINING RECORDERS—Continued.

| Mining Division.          | Location of Office. | Gold Commissioner.          | Mining Recorder. | Sub-Recorder.        |
|---------------------------|---------------------|-----------------------------|------------------|----------------------|
| Omineca M.D.— <i>Con.</i> |                     |                             |                  |                      |
| Sub-office                | Hudson Hope         |                             |                  | F. F. Monteith.      |
| "                         | Fort St. John       |                             |                  | F. W. Beaton.        |
| "                         | Copper City         |                             |                  | L. G. Skinner.       |
| "                         | Terrace             |                             |                  | L. H. Kenny.         |
| "                         | Fort Fraser         |                             |                  | J. D. Fraser.        |
| "                         | Pacific             |                             |                  | T. H. McCubbin.      |
| "                         | Hazleton            |                             |                  | Sperry Cline.        |
| "                         | Burns Lake          |                             |                  | L. Mulvaney.         |
| "                         | Houston             |                             |                  | W. J. Lutley.        |
| "                         | Uak                 |                             |                  | Jas. L. Bethurum.    |
| "                         | Tatla Landing       |                             |                  | R. C. McCorkell.     |
| Peace River Mining Div.   | Fort St. John       | S. H. Hoskins (at Hazelton) | F. W. Beaton     |                      |
| Sub-office                | Finlay Forks        |                             |                  | A. T. Sherwood.      |
| "                         | Hudson Hope         |                             |                  | F. F. Monteith.      |
| "                         | Pouce Coupe         |                             |                  | Fred. Fraser.        |
| Cariboo Mining Division   | Barkerville         | H. Beech                    |                  |                      |
| Sub-office                | Quesnel             | "                           |                  | E. C. Lunn.          |
| "                         | Fort George         | "                           |                  | Geo. Milburn.        |
| "                         | McBride             | "                           |                  | S. Service.          |
| Quesnel Mining Division   | Williams Lake       | H. B. Campbell              | R. M. McGusty    |                      |
| Sub-office                | Quesnel             |                             |                  | E. C. Lunn.          |
| "                         | Likely              |                             |                  | A. B. Campsoll.      |
| "                         | Barkerville         |                             |                  | H. Beech.            |
| Clinton Mining Division   | Clinton             | R. J. A. Dorrell            | R. J. A. Dorrell |                      |
| Sub-office                | Taseko Camp         |                             |                  | T. A. Brett.         |
| "                         | Williams Lake       |                             |                  | R. M. McGusty        |
| Lillooet Mining Division  | Lillooet            | John Dunlop                 | John Dunlop      |                      |
| Kamloops Mining Division  | Kamloops            | E. Fisher                   | L. S. Brown      | L. J. Price.         |
| Sub-office                | Chu Chua            |                             |                  | George Fennell.      |
| "                         | Vavenby             |                             |                  | Hyde Finley.         |
| "                         | Albas               |                             |                  | C. O. Sjouquist.     |
| Ashcroft Mining Division  | Ashcroft            | E. Fisher (at Kam.)         | W. C. Adams      | Miss Ada E. Astell.  |
| Sub-office                | Lytton              |                             |                  | W. Greenwood.        |
| Nicola Mining Division    | Merritt             | E. Fisher (at Kam.)         | W. H. Boothroyd  |                      |
| Yale Mining Division      | Yale                | "                           |                  |                      |
| Sub-office                | Hope                | "                           | D. A. Hazelton   | Mrs. D. A. Hazelton. |
| Similkameen Mining Div.   | Princeton           | Hugh Hunter                 | Hugh Hunter      | [ton]                |
| Sub-office                | Hedley              |                             |                  | R. E. Baxter.        |
| Vernon Mining Division    | Vernon              | L. Norris                   | M. S. Morrell    |                      |
| Greenwood Mining Div.     | Greenwood           | P. H. McCurrach             | P. H. McCurrach  |                      |
| Sub-office                | Vernon              |                             |                  | M. S. Morrell.       |
| "                         | Rock Creek          |                             |                  | Owen Wheeler.        |
| "                         | Beaverdell          |                             |                  | E. F. Ketchum.       |
| Grand Forks Min. Div.     | Grand Forks         | Chas. Mudge                 | Chas. Mudge      |                      |
| Osoyoos Mining Division   | Penticton           | W. R. Dewdney               | W. R. Dewdney    |                      |
| Sub-office                | Olalla              |                             |                  | R. W. Northey.       |
| "                         | Hedley              |                             |                  | R. E. Baxter.        |
| "                         | Fairview            |                             |                  | J. R. Brown.         |
| Golden Mining Division    | Golden              | G. E. Sanborn               | G. E. Sanborn    | H. C. Moore.         |
| Windermere Mining Div.    | Wilmer              | " (at Golden)               | E. M. Sandilands |                      |
| Fort Steele Mining Div.   | Cranbrook           | F. A. Small                 | F. A. Small      |                      |
| Sub-office                | Fernie              |                             |                  | R. J. Stenson.       |
| "                         | Yahk                |                             |                  | W. A. Walker.        |
| Ainsworth Mining Div.     | Kaslo               | Ronald Hewat                | A. McQueen       | A. W. Anderson.      |
| Sub-office                | Howser              |                             |                  | W. Simpson.          |
| "                         | Trout Lake          |                             |                  | Oscar Jacobson.      |
| "                         | Poplar              |                             |                  | Arthur G. Johnston.  |
| Slocan Mining Division    | New Denver          | Ronald Hewat (at Kaslo)     | Angus McInnes    |                      |
| Sub-office                | Sandon              |                             |                  | W. J. Parham.        |
| Slocan City Mining Div.   | Slocan              | Ronald Hewat                | Oscar Jacobson   |                      |

## GOLD COMMISSIONERS AND MINING RECORDERS—Continued.

| Mining Division.           | Location of Office. | Gold Commissioner.     | Mining Recorder.    | Sub-Recorder.      |
|----------------------------|---------------------|------------------------|---------------------|--------------------|
| Trout Lake Mining Div..    | Trout Lake .....    | Ronald Hewat ....      | Thos. McNeish....   |                    |
| Nelson Mining Division..   | Nelson .....        | J. Cartmel .....       | J. Cartmel .....    |                    |
| Sub-office .....           | Creston .....       |                        |                     | R. Lamont.         |
| " .....                    | Ymir .....          |                        |                     | Wm. Clark.         |
| " .....                    | Sheep Creek .....   |                        |                     | Geo. Leese.        |
| " .....                    | Salmo .....         |                        |                     | M. C. Donaldson.   |
| Arrow Lake Min. Division   | Nakusp .....        | J. Cartmel (at Nelson) | Walter Scott .....  |                    |
| Sub-office .....           | Vernon .....        |                        |                     | M. S. Morrell.     |
| Revelstoke Mining Div...   | Revelstoke .....    | Wynfield Maxwell.      | C. J. Aman .....    | Newton R. Brown.   |
| Lardeau Mining Division.   | Beaton .....        | " (at Revelstoke)      | Ernest Roberts....  |                    |
| Trail Creek Mining Div...  | Roseland .....      | W. H. Reid .....       | W. H. Reid .....    |                    |
| Nanaimo Mining Division    | Nanaimo .....       | L. A. Dodd .....       | L. A. Dodd .....    |                    |
| Sub-office .....           | Ladysmith .....     |                        |                     | John Stewart.      |
| " .....                    | Alert Bay .....     |                        |                     | Ernest H. Robinson |
| " .....                    | Vananda .....       |                        |                     | Leonard Raper.     |
| " .....                    | Quathiaski Cove..   |                        |                     | S. Marshall.       |
| " .....                    | Granite Bay .....   |                        |                     | Henry Twidle.      |
| " .....                    | Campbell River..    |                        |                     | T. W. Hanson.      |
| Alberni Mining Division..  | Alberni .....       | A. G. Freeze .....     | A. G. Freeze .....  |                    |
| Clayoquot Mining Division  | Clayoquot .....     | " (at Alberni)         | W. T. Dawley .....  |                    |
| Quatsino Mining Division   | Quatsino .....      | " .....                | Ed. Evensen .....   |                    |
| Victoria Mining Division.. | Victoria .....      | R. J. Steenson ....    | R. J. Steenson .... |                    |
| New Westminster Min. D.    | New Westminster.    | F. C. Campbell....     | I. Wintemute....    |                    |
| Sub-office .....           | Harrison Lake....   |                        |                     | L. A. Agassiz.     |
| " .....                    | Chilliwack .....    |                        |                     | J. Pelly.          |
| Vancouver Mining Div...    | Vancouver .....     | John Mahony .....      | A. P. Grant .....   |                    |

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